AIR QUALITY PERMIT

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| Issued To: | Plains Pipeline, L.P.<br>Baker Crude Station<br>P.O. Box 708<br>Belfield, ND 58622 | Permit #2110-05<br>Application Complete: 04/17/07<br>Preliminary Determination Issued: 05/09/07<br>Department's Decision Issued: 05/25/07<br>Permit Final: 06/12/07<br>AFS #025-0006 |

An air quality permit, with conditions, is hereby granted to Plains Pipeline, L.P. (Plains), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

Plains owns and operates a crude oil tank farm and a crude oil loading and crude oil unloading station located about 10 miles west of Baker, Montana, on the south side of Highway 12 in Section 3, Township 7 North, Range 58 East, in Fallon County, Montana. The facility's office is located in Belfield, North Dakota. The facility is known as the Baker Crude Station.

B. Current Permit Action

On February 28, 2007, (with subsequent submittals on March 12, 2007, March 15, 2007, and April 17, 2007), the Department of Environmental Quality – Air Resources Management Bureau (Department) received a Montana Air Quality Permit (MAQP) application from Plains Marketing L.P. (Plains Marketing). The MAQP application requested a modification to MAQP #3416-00 to install a truck loading facility adjacent to the Plains Marketing Baker Truck Crude Oil Station. The truck loading facility will consist of a Lease Automated Custody Transfer (LACT) unit for use to purchase oil from the Plains Pipeline Baker Crude Oil Station (MAQP #2110).

The Department determined that the Plains Pipeline (MAQP #2110) and Plains Marketing (MAQP #3416) constitute a single facility. As defined in the ARM 17.8.740(6), "*Facility* means any real or personal property that is either stationary or portable and is located on one or more contiguous or adjacent properties under the control of the same owner or operator and that emits or has the Potential to Emit (PTE) any air pollutant subject to regulation under the Clean Air Act of Montana or the Federal Clean Air Act….and that has the same two-digit standard industrial classification code…" The following analysis provides basis for the Department's determination that Plains Pipeline (MAQP #2110) and Plains Marketing (MAQP #3416) constitute a single facility:

1. Industrial Grouping: Plains Pipeline and Plains Marketing have the same 2-digit Standard Industrial Classification Code (SIC Code), SIC grouping 51.

2. Contiguous or Adjacent Properties: Plains Pipeline and Plains Marketing are located on contiguous and adjacent properties.

3. Control of Same Owner or Operator: Plains Pipeline and Plains Marketing are under common control and ownership.

Because Plains Pipeline and Plains Marketing constitute a single facility, the current permit action is technically considered a modification of Plains Marketing's existing MAQP #3416-00. However, under the current permit action, Plains Marketing requested that operations at each source (Plains Marketing and Plains Pipeline) be regulated under MAQP #2110. In addition, Plains Marketing requested to revoke MAQP #3416-00.

On April 9, 2007, the Department received a letter from Plains Pipeline notifying the Department of a proposed additional 150,000 barrel (bbl) nominal capacity crude oil storage tank to be constructed at the Baker Crude Oil Station. In addition to the 150,000 bbl tank, total facility throughput will be increased from 2,720 bbl per hour (bbl/hr) to 3,500 bbl/hr. This will be accomplished by replacing one of the four LACT units on site with a larger LACT. The potential emissions from the proposed project are less than the de minimis threshold of 15 tons per year. The current permit action incorporates Plains Pipeline's request into the permit.

SECTION II: Conditions and Limitations

A. Emission Control Requirements

1. Plains shall install, operate, and maintain the emission control equipment and practices to provide the maximum air pollution control for which it was designed (ARM 17.8.752).

2. The 5,000-bbl (Tank #1), 10,000-bbl (Tank #2), and 150,000-bbl (Tank #3) crude oil storage tanks shall each be equipped with an internal floating roof to control Volatile Organic Compound (VOC) emissions (ARM 17.8.752).

3. Plains shall comply with all applicable requirements of ARM 17.8.340 which references 40 Code of Federal Requirements (CFR) Part 60 Standards of Performance for New Stationary Sources, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels, which applies to all volatile organic storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction or modification commenced after July 23, 1984. This shall include, but not be limited to, the 10,000-bbl storage tank and the 150,000-bbl storage tank. These requirements shall be as specified in 40 CFR 60.112(b), 60.113(b), 60.114(b), 60.115(b), 60.116(b), and 60.117(b) (ARM 17.8.340 and 40 CFR 60, Subpart Kb).

4. Plains shall comply with all applicable requirements of ARM 17.8.340 which references 40 CFR Part 60 Standards of Performance for New Stationary Sources, Subpart A – General Provisions. This shall include, but not limited to, the truck loading station flare. These requirements shall be as specified in 40 CFR 60.18 and 60.19 (ARM 17.8.340 and 40 CFR, Subpart A).

5. The two 400-bbl crude oil tanks shall not exceed a combined crude oil throughput of 500,000 bbl's per rolling 12-month time period (ARM 17.8.749).

6. The two 400-bbl crude oil tanks shall employ submerged fill (ARM 17.8.752).

7. Plains shall control VOC emissions from the truck loading station by routing the emission to a flare (ARM 17.8.752).

8. The truck loading station LACT crude oil throughput shall not exceed 2,569,600 bbl's per rolling 12-month time period (ARM 17.8.749).

9. Plains 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).

10. Plains 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).

11. Plains shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.10 (ARM 17.8.749).

B. Inspection and Repair Requirements

1. Each calendar month, Plains shall inspect all fugitive piping components (valves, flanges, pump seals, open-ended lines) for leaks. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable (ARM 17.8.105 and ARM 17.8.749).

2. Plains shall (ARM 17.8.105 and 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 no later than 15 calendar days after it is detected, except as provided in Section II.B.3.

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

C. Testing Requirements

1. Plains shall meet the requirements of all testing procedures as described in 40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels, including, but not limited to the following (ARM 17.8.340 and 40 CFR 60, Subpart Kb):

a. Visually inspect the internal floating roof, the primary seal, and the secondary seal through manholes and roof hatches on the fixed roof at least every 12 months after initial fill.

b. Visually inspect the internal floating roof, the primary seal and secondary seal, gaskets, slotted membranes, and sleeve seals each time the storage vessel is emptied and degassed. These inspections shall occur at intervals no greater than 10 years.

c. Additional requirements, as described in 40 CFR 60, Subpart Kb, may apply.

2. Plains shall keep copies of all reports and records required by 40 CFR Part 60.115(b) for at least 2 years and shall be made available for inspection by air quality personnel at the location of the permitted source.

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).

D. Operational Reporting Requirements

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

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

2. Plains shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. Plains shall supply the Department with the reports as required by 40 CFR 60, Subpart Kb. Plains shall furnish the Department with initial and annual reports for each storage vessel that applies to this subpart. These reports shall include information described in 40 CFR 60.115(b) (ARM 17.8.340 and 40 CFR 60, Subpart Kb).

4. Plains shall supply the Department with the reports as required by 40 CFR 60, Subpart A. Plains shall furnish the Department with the reports for the truck loading station flare that applies to this subpart. These reports shall include information described in 40 CFR 60.19 (ARM 17.8.340 and 40 CFR, Subpart A).

5. All records compiled in accordance with this permit must be maintained by Plains 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).

6. Plains shall document, by month, the crude oil throughput for the two 400-bbl fixed roof tanks. By the 25$^{th}$ day of each month, Plains shall total the crude oil throughput for these tanks for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.5. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

7. Plains shall document, by month, the truck loading station LACT crude oil throughput for the facility. By the 25th day of each month, Plains shall total the truck loading station LACT crude oil throughput for the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.8. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

E. Recordkeeping Requirements

1. A record of each monthly leak inspection required by Section II.B.1 of this permit shall be kept on file with Plains. 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.

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

SECTION III: General Conditions

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

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Plains of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the

Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Plains may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Permit Analysis
Plains Pipeline, L.P.
Permit #2110-05

# I. Introduction/Process Description

## A. Permitted Equipment

Plains Pipeline, L.P. (Plains) owns and operates a crude oil tank farm and a crude oil loading and crude oil unloading station located about 10 miles west of Baker, Montana, on the south side of Highway 12 in Section 3, Township 7 North, Range 58 East, in Fallon County, Montana. The facility's office is located in Belfield, North Dakota. The facility is known as the Baker Crude Station and consists of the following equipment:

| Source | Description | Year Installed |
|---|---|---|
| Tank #1 | 5,000-bbl tank | 1972 |
| Tank #2 | 10,000-bbl tank | 1985 |
| Tank #3 | 150,000-bbl tank | Planned 2007 |
| Tank 50200 | 400-bbl tank | Reactivated 2006 |
| Tank 6671 | 400-bbl tank | Reactivated 2006 |
| TL | Truck Loading Station | Planned 2007 |
| FL | Truck Loading Vapor Combustor (flare) | Planned 2007 |
| FE | Fugitive Emissions – vehicle traffic on unpaved roads | ----- |
| Additional sources include miscellaneous pumps, piping, valves, connectors, flanges, open-ended lines, and other. | | |

## B. Process Description

The crude oil terminal was reactivated in 2006 after leaving the terminal idle for several years. The crude oil terminal consists of two 400-bbl crude oil submerged-fill tanks that receive oil brought into the station by trucks from various oil fields within approximately 20-mile radius. The trucks pump the oil into the tanks, which act as equalization vessels, at atmospheric temperature. The crude is then pumped from the tanks into a pipeline to a 5,000-bbl tank, 10,000-bbl tank, and 150,000-bbl tank located adjacent to the oil terminal. The 5,000-bbl tank, 10,000-bbl tank, and the 150,000-bbl tank are each equipped with an internal floating roof. The facility also consists of five Lease Automated Custody Transfer (LACT) units to meter crude oil to either load or unload transport trucks and a flare used to control Volatile Organic Compounds (VOC) emissions from the truck loading station.

## C. Permit History

Okie Pipeline Company (Okie) applied for and received **Permit #2110** to construct one 10,000-barrel (bbl) capacity crude oil storage tank (Tank #2) at its Baker Crude Station. The permit was for the 10,000-bbl tank, as well as the existing 5,000-bbl crude oil storage tank (Tank #1).

A Best Available Control Technology (BACT) determination was made for the two tanks as part of issuing Permit #2110. Okie proposed an internal floating roof as the proposed method of controlling Volatile Organic Compounds (VOC) emissions from both tanks. Internal floating roofs control up to 98% of VOC emissions and have been determined to be BACT for crude oil storage tanks in the past. The economic costs of this control are offset by the value of the emissions that are recovered and were acceptable to the

applicant. Therefore, the Department of Health and Environmental Sciences determined that the installation of an internal floating roof on the proposed storage tank and the continued operation of the internal floating roof on the existing tank constituted BACT.

On November 8, 1993, Okie, as well as Koch Gathering Systems, Inc. (KOCH), submitted written notice of intent to transfer Permit #2110 from Okie to KOCH. Permit #2110-01 was issued to reflect the change in ownership. On January 18, 1994, **Permit #2110-01** replaced Permit #2110.

On December 14, 1998, KOCH, as well as EOTT Energy Corp. (EOTT), submitted written notice of intent to transfer Permit #2110-01 from KOCH to EOTT. Permit #2110-02 was issued to reflect the change in ownership. In addition, the rule references were updated. On January 13, 1999, **Permit #2110-02** replaced Permit #2110-01.

On November 6, 2003, the Department of Environmental Quality (Department) received a letter from EOTT notifying the Department that EOTT Energy changed its name to Link Energy Pipeline Limited Partnership (Link Energy) and that the operating entity for the Baker Station changed to Link Energy. EOTT requested that the Department update Permit #2110-02 to reflect the name change. The current permit action incorporated EOTT's request into the permit. In addition, the permit format, language, and rule references were updated to reflect the current format, language, and rule references used by the Department. **Permit #2110-03** replaced Permit #2110-02.

On May 7, 2004, the Department received a letter from Plains notifying the Department that Link Energy changed its name to Plains and that the operating entity for the Baker Station changed to Plains. Plains requested that the Department update Permit #2110-03 to reflect the name change. On May 10, 2004, the Department received a letter from Plains notifying the Department that Plains was installing a LACT assembly. The LACT will increase the potential crude oil transfer rate from 1,320 barrels per hour (bbl/hr) to 2,720 bbl/hr increasing potential VOC emission by 6.74 tons/year. The potential emissions from the proposed equipment are less than the de minimis threshold of 15 tons per year. The current permit action incorporates Plains' request into the permit. In addition, the permit format, language, and rule references were updated to reflect the current format, language, and rule references used by the Department. **Permit #2110-04** replaced Permit #2110-03.

D. Current Permit Action

On February 28, 2007, (with subsequent submittals on March 12, 2007, March 15, 2007, and April 17, 2007), the Department received a Montana Air Quality Permit (MAQP) application from Plains Marketing L.P. (Plains Marketing). The MAQP application requested a modification to MAQP #3416-00 to install a truck loading facility adjacent to the Plains Marketing Baker Truck Crude Oil Station. The truck loading facility will consist of a LACT unit for use to purchase oil from the Plains Pipeline Baker Crude Oil Station (MAQP #2110).

The Department determined that the Plains Pipeline (MAQP #2110) and Plains Marketing (MAQP #3416) constitute a single facility. As defined in the Administrative Rules of Montana (ARM) 17.8.740(6), "*Facility* means any real or personal property that is either stationary or portable and is located on one or more contiguous or adjacent properties under the control of the same owner or operator and that emits or has the Potential to Emit (PTE) any air pollutant subject to regulation under the Clean Air Act of Montana or the Federal Clean Air Act….and that has the same two-digit standard

industrial classification code…" The following analysis provides basis for the Department's determination that Plains Pipeline (MAQP #2110) and Plains Marketing (MAQP #3416) constitute a single facility:

1. Industrial Grouping: Plains Pipeline and Plains Marketing have the same 2-digit Standard Industrial Classification Code (SIC Code), SIC grouping 51.

2. Contiguous or Adjacent Properties: Plains Pipeline and Plains Marketing are located on contiguous and adjacent properties.

3. Control of Same Owner or Operator: Plains Pipeline and Plains Marketing are under common control and ownership.

Because Plains Pipeline and Plains Marketing constitute a single facility, the current permit action is technically considered a modification of Plains Marketing's existing MAQP #3416-00. However, under the current permit action, Plains Marketing requested that operations at each source (Plains Marketing and Plains Pipeline) be regulated under MAQP #2110. In addition, Plains Marketing requested to revoke MAQP #3416-00.

On April 9, 2007, the Department received a letter from Plains Pipeline notifying the Department of a proposed additional 150,000-bbl nominal capacity crude oil storage tank to be constructed at the Baker Crude Oil Station. In addition to the 150,000-bbl tank, total facility throughput will be increased from 2,720 bbl/hr to 3,500 bbl/hr. This will be accomplished by replacing one of the four LACT units on site with a larger LACT. The potential emissions from the proposed project are less than the de minimis threshold of 15 tons per year. The current permit action incorporates Plains Pipeline's request into the permit. **Permit #2110-05** replaces Permit #2110-04.

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 ARMs 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. <u>ARM 17.8.101 Definitions</u>. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. <u>ARM 17.8.105 Testing Requirements</u>. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   Plains 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 $PM_{10}$

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

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

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Plains 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 (PM) in excess of 0.10 grains per dry standard cubic foot (gr/dscf) of dry flue gas, adjusted to 12% carbon dioxide ($CO_2$) and calculated as if no auxiliary fuel had been used. Also, 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. This rule does not apply to the flare at the Plains facility because Plains has applied for and received an air quality permit in accordance with ARM 17.8.748 and MCA 75-2-215.

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 60, Standards of Performance for New Stationary Sources (NSPS).

   40 CFR Part 60 Standards of Performance for New Stationary Sources, Subpart A – General Provisions. This shall include, but not limited to, the truck loading station flare.

   40 CFR 60, Subpart K – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978, does not apply to storage vessels of less than 40,000-bbl. Tank #1 (5,000-bbl) is not subject since it is less than 40,000-bbl and was constructed in 1972.

   40 CFR 60 Subpart Ka – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and prior to July 23, 1984, does not apply because the tanks were constructed after July 23, 1984.

   40 CFR 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, applies to Tank #2 (10,000-bbl), and Tank #3 (150,000-bbl).

The requirement to install a vapor control device on Tank #1 (5,000-bbl), Tank #2 (10,000-bbl), and Tank #3 (150,000-bbl) applies since the tanks are larger than 1,548 bbls and the true vapor pressure is greater than 2.5 pounds per square inch absolute (psia). The true vapor pressure of the crude oil to be stored is 4.2 psia.

9. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. A major Hazardous Air Pollutant (HAP) source, as defined and applied in 40 CFR 63, shall comply with the requirements of 40 CFR 63, as applicable, including the following subparts:

- Subpart HH – National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities.
- Subpart HHH – National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities
- Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines.

Based on the information submitted by Plains, the Plains facility is not subject to the provisions of 40 CFR Part 63, because the facility is not a major source of HAPs.

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

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Plains submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 When Permit Required--Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

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

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

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

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter or use any air contaminant sources that have the PTE greater than 25 tons per year of any pollutant. Plains has a PTE greater than 25 tons per year of VOC, therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that 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, alteration or use of a source. Plains submitted the required permit application for the current permit action. (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. Plains submitted an affidavit of publication of public notice for the March 2, 2007, issue of the *Fallon County Times*, a newspaper of general circulation in the city of Baker in Fallon 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 air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Plains of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition

providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the 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 air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

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

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

a. PTE > 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 Air Quality Permit #2110-05 for Plains, the following conclusions were made:

a. The facility's PTE is less than 100 tons/year for any pollutant.

b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.

c. This source is not located in a serious $PM_{10}$ nonattainment area.

d. This facility is subject to a current NSPS standard (40 CFR 60, Subpart Kb).

e. This facility is not subject to any current National Emission Standards for Hazardous Air Pollutants (NESHAP) standards.

f. This source is not a Title IV affected source, nor a solid waste combustion unit.

g. This source is not an Environmental Protection Agency (EPA) designated Title V source.

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

## III. BACT Determination

A BACT determination is required for each new or altered source. Plains shall install on the new or altered source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized.

### Truck Loading Operation

Plains submitted a BACT analysis addressing available methods of controlling VOC emissions from loading crude oil trucks. One truck loading hookup station is proposed.

This analysis is based on a 45-minute time period required for truck loading at the facility. This 45-minute time period includes time to drive up to the loading area, park, hook up loading hoses, load, disconnect loading hoses, and drive off. Using a cycle of 45 minutes for loading each truck, 32 trucks can be loaded each day with one loading area. Based on 32 trucks per day at 220 bbl per truck, Plains has a potential throughput of 2,569, 600 bbl crude oil per year. This potential truck loading throughput results in 335.6 tons per year (tpy) uncontrolled VOC emissions.

Control technologies considered in this analysis are:

- Refrigeration/Distillation (vapor recovery);
- Granulated Activated Carbon; and
- Vapor Combustor (flare).

Cost Effectiveness

- Refrigeration/Distillation (vapor recovery): $229/ton per year reduction
- Granulated Activated Carbon: 11,980/ton per year reduction
- Vapor Combustor (flare): $228/ton per year reduction

| Control Option | Percent Reduction | Tons per year controlled | Total Annual Cost | Cost per ton |
|---|---|---|---|---|
| Refrigeration/Distillation (vapor recovery) | 100% | 149.6 | $34,380 | $229 |
| Granulated Activated Carbon | 95% | 149.6 | $1,792,280 | $11,980 |
| Vapor Combustor (flare) | 98% | 331.4 | $23,900 | $228 |

Note: A complete analysis of control and control costs is contained in the application for Permit #2110-05.

Since vapor recovery and flare are comparable cost and control, the vapor combustor (flare) has been proposed as BACT to control VOC emissions from the truck loading operations. This is consistent with other BACT determinations for similar sources.

IV. Emission Inventory

| Tons/Year | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Source #** | **Source** | **$PM_{10}$** | **$NO_x$** | **CO** | **VOC** | **$SO_x$** | **HAPs** |
| Tank #1 | 5,000 bbl storage tank (Controlled) | -------- | -------- | -------- | 5.54 | ------ | 0.72 |
| Tank #2 | 10,000 bbl storage tank (Controlled) | -------- | -------- | -------- | 6.95 | ------ | 0.90 |
| Tank #3 | 150,000 bbl storage tank (Controlled) | -------- | -------- | -------- | 8.79 | ------ | 1.14 |
| Tank 50200 | 400 bbl (16,800 gallon) tank with submerged fill | -------- | -------- | -------- | 4.92 | ------ | 0.51 |
| Tank 6671 | 400 bbl (16,800 gallon) tank with submerged fill | -------- | -------- | -------- | 4.92 | ------ | 0.51 |
| FL | Truck Loading Vapor Combustor (flare) | 0.019 | 1.84 | 4.50 | 4.50 | 0.016 | 0.46 |
| FE | Fugitive Emissions – Piping (Permit #2110-04) | -------- | -------- | -------- | 11.11 | ------ | 0.73 |
| FE | Fugitive Emissions – Piping (Permit #3416-00) | -------- | -------- | -------- | 2.99 | ------ | -------- |
| FE | Fugitive Emissions – Piping (Truck Loading) | -------- | -------- | -------- | 4.03 | ------ | -------- |
| FE | Fugitive Emissions – Piping (150,000-bbl tank) | -------- | -------- | -------- | 11.12 | ------ | -------- |
| FE | Fugitive Emissions – Vehicle traffic on unpaved roads | 11.86 | -------- | -------- | -------- | ------ | -------- |
| **Totals** | | 11.88 | 1.84 | 4.50 | 64.87 | 0.016 | 4.97 |

Note: A complete emission inventory for Permit #2110-05 is on file with the Department.

**Truck Loading Vapor Combustor (flare)**

Flare
Throughput: 408,489,312 Liter per year (L/yr)

$NO_X$ Emissions
Emission Factor: 4,000 microgram (ug)/L (Company Information)
Calculations: 4,000 ug/L * 408,489,312 L/yr * 1 lb/453,592,370 ug * 1 ton/2000 lb = 1.8 ton/yr

CO Emissions
Emission Factor: 10,000 ug/L (Company Information)
Calculations: 10,000 ug/L * 408,489,312 L/yr * 1 lb/453,592,370 ug * 1 ton/2000 lb = 4.50 ton/yr

VOC Emissions
Emission Factor: 10,000 ug/L (Company Information)
Calculations: 10,000 ug/L * 408,489,312 L/yr * 1 lb/453,592,370 ug * 1 ton/2000 lb = 4.50 ton/yr

$SO_2$ Emissions
Emission Factor: 0.0006 lb/MMBtu (Company Information)
Calculations: 0.0006 lb/MMBtu * 52,518.776 MMBtu/yr * 1ton/2000 lb = 0.016 ton/yr

PM Emissions
Emission Factor: 40 ug/L (Company Information)
Calculations: 40 ug/L * 408,489,312 L/yr * 1 lb/453,592,370 ug * 1 ton/2000 lb = 0.018 ton/yr

$PM_{10}$ Emissions
Emission Factor: 40 ug/L (Company Information)
Calculations: 40 ug/L * 408,489,312 L/yr * 1 lb/453,592,370 ug * 1 ton/2000 lb = 0.018 ton/yr

<u>Pilot</u>
Pilot Gas Heating Value: 90.8 MMBtu/1,000 gallon (Company Information)
Pilot Gas Usage: 0.053 MMBtu/hr (Company Information)

$NO_X$ Emissions
Emission Factor: 14 lb/1,000 gallon/90.8 MMBtu/1000 gal = 0.1542 lb/MMBtu (AP-42 1.5.3.1)
Calculations: 0.1542 lb/MMBtu * 0.053 MMBtu/hr * 1 ton/2000 lb * 8,760 hr/yr = 0.035 ton/yr

CO Emissions
Emission Factor: 1.9 lb/1,000 gallon/90.8 MMBtu/1000 gal = 0.0209 lb/MMBtu (AP-42 1.5.3.1)
Calculations: 0.0209 lb/MMBtu * 0.053 MMBtu/hr * 1 ton/2000 lb * 8,760 hr/yr = 0.0049 ton/yr

VOC Emissions
Emission Factor: 0.6 lb/1,000 gallon/90.8 MMBtu/1000 gal = 0.0066 lb/MMBtu (AP-42 1.5.3.1)
Calculations: 0.1542 lb/MMBtu * 0.053 MMBtu/hr * 1 ton/2000 lb * 8,760 hr/yr = 0.0015 ton/yr

$SO_2$ Emissions
Emission Factor: 0.105 lb/1,000 gallon/90.8 MMBtu/1000 gal = 0.0012 lb/MMBtu (AP-42 1.5.3.1)
Calculations: 0.0012 lb/MMBtu * 0.053 MMBtu/hr * 1 ton/2000 lb * 8,760 hr/yr = 0.00028 ton/yr

PM Emissions
Emission Factor: 0.4 lb/1,000 gallon/90.8 MMBtu/1000 gal = 0.0044 lb/MMBtu (AP-42 1.5.3.1)
Calculations: 0.0044 lb/MMBtu * 0.053 MMBtu/hr * 1 ton/2000 lb * 8,760 hr/yr = 0.0010 ton/yr

$PM_{10}$ Emissions
Emission Factor: 0.4 lb/1,000 gallon/90.8 MMBtu/1000 gal = 0.0044 lb/MMBtu (AP-42 1.5.3.1)
Calculations: 0.0044 lb/MMBtu * 0.053 MMBtu/hr * 1 ton/2000 lb * 8,760 hr/yr = 0.0010 ton/yr

**Fugitive HAP Emission Calculations - Flare**

*Basis for Speciation Factors: EPA Speciate Program Profile No. 1210 – Pipeline Terminal Tanks*

| HAP | Speciation Factor (% HAP in vapor phase) | VOC Emissions (Ton/yr) | HAP Emissions (Ton/yr) |
|---|---|---|---|
| Benzene | 0.54 | 4.5 | 0.02 |
| Toluene | 0.90 | 4.5 | 0.04 |
| Ethylbenzene | 0.22 | 4.5 | 0.01 |
| Xylene | 0.89 | 4.5 | 0.04 |
| Hexane | 4.69 | 4.5 | 0.21 |
| 2,2,4 - Trimethylpentane | 3.03 | 4.5 | 0.14 |
| **Total Fugitive HAPs** | | | **0.46** |

**Truck Loading**

Uncontrolled VOC Emissions

Maximum oil loading throughput = 2,569,600 bbl/yr * 42 gal/bbl * 1 yr/8,760 hr = 12,320 gal/hr

$L_L$ = 12.46 * SPM/T (AP-42, Chapter 5, equation 1, page 5.2-4, 1/95)
Where:

$L_L$ = loading loss, lb/$10^3$ gallons of liquid loaded
S = Saturation Factor from Table 5.2-1 = 0.60
P = true vapor pressure of liquid loaded (psia) from Table 7.1-2 = 8.99
M = molecular weight of vapors (lb/lb/mole) = 50
T = temperature of bulk liquid loaded in ºR (ºF + 460) = 540

$L_L$ = 12.46 * 0.60 * 8.99 * 50/540 = 6.22 lb/1000 gal TOC

$L_L$VOC = 6.22 lb/1000 gal * (12,320 gal/hr) * (8,760 hr/yr) * (0.0005 ton/lb) = 335.6 ton/yr
Note: Emissions are controlled by a flare; therefore, are not included in the emission inventory.

**Truck Loading Fugitive VOC Emissions – emissions based on EPA's "Protocol for Equipment Leak Emission Estimates," November 1995 for Light Oil >= 20 API Gravity**

VOC weight fraction: 1.00

Pumps: 2 pumps
Emission Factor: 0.688 lb/day/pump
Calculation: 2 pumps * 0.688 lb/day/pump *365 days/yr * 0.0005 ton/lb= 0.25 tons per year

Valves: 50 valves
Emission Factor: 0.132 lb/day/valve
Calculation: 50 valves * 0.132 lb/day/valve *365 days/yr * 0.0005 ton/lb= 1.20 tpy

Connector: 10 connectors
Emission Factor: 0.011 lb/day/connector
Calculation: 10 connectors * 0.011 lb/day/connector *365 days/yr * 0.0005 ton/lb= 0.02 tpy

Flange: 200 flanges
Emission Factor: 0.0058 lb/day/flanges
Calculation: 200 flanges * 0.0058 lb/day/flange *365 days/yr * 0.0005 ton/lb= 0.21 tpy

Open-Ended Line: 8 open-ended lines
Emission Factor: 0.074 lb/day/open-ended line

Calculation: 8 open-ended line *0.074 lb/day/open-ended line *365 days/yr *0.0005 ton/lb= 0.11 tpy

Other: 10 "other"
Emission Factor: 0.397 lb/day/"other"
Calculation: 10 "other" * 0.397 lb/day/"other" *365 days/yr * 0.0005 ton/lb= 0.72 tpy

Gas
VOC Weight Fraction: 0.49

Valves: 20 valves
Emission Factor: 0.2380968 lb/day/valve
Calculation: 20 valves * 0.2380968 lb/day/valve *365 days/yr * 0.0005 ton/lb= 0.87 tpy
Connector: 20 connectors
Emission Factor: 0.01058208 lb/day/connector
Calculation: 20 connectors * 0.01058208 lb/day/connector *365 days/yr * 0.0005 ton/lb= 0.04 tpy

Open-Ended Line: 10 open-ended lines
Emission Factor: 0.1058208 lb/day/open-ended line
Calculation: 10 open-ended line *0.1058208 lb/day/open-ended line *365 days/yr *0.0005 ton/lb= 0.19 tpy

Other: 5 "other"
Emission Factor: 0.46561152 lb/day/"other"
Calculation: 5 "other" * 0.46561152 lb/day/"other" *365 days/yr * 0.0005 ton/lb= 0.42 tpy

Total fugitives from piping: 4.03 ton/yr

**Fugitive HAP Emission Calculations - Pipeline**

*Basis for Speciation Factors: EPA Speciate Program Profile No. 1210 – Pipeline Terminal Tanks*

| HAP | Speciation Factor (% HAP in vapor phase) | VOC Emissions (Ton/yr) | HAP Emissions (Ton/yr) |
|---|---|---|---|
| Benzene | 0.54 | 4.0 | 0.02 |
| Toluene | 0.90 | 4.0 | 0.04 |
| Ethylbenzene | 0.22 | 4.0 | 0.01 |
| Xylene | 0.89 | 4.0 | 0.04 |
| Hexane | 4.69 | 4.0 | 0.19 |
| 2,2,4 - Trimethylpentane | 3.03 | 4.0 | 0.12 |
| **Total Fugitive HAPs** | | | **0.42** |

**Haul Roads: Fugitive PM and $PM_{10}$ Emissions from Unpaved Roads**
Basis for Emission Factors: AP-42, Section 13.2.2 (12/03), Unpaved Roads

Semi-trucks: 2,569,600 bbl/yr total throughput / 220.0 bbl/truck * 0.25 VMT/truck = 2920 VMT/yr
PM = 2920 VMT/yr * 4.114091 lb/VMT * 0.0005 ton/lb = 6.00 ton/yr
$PM_{10}$ = 2920 VMT/yr * 3.966776 lb/VMT * 0.0005 ton/lb = 5.79 ton/yr

Pickups: 365 truck/yr * 0.25 VMT/truck = 91.25 VMT/yr
PM = 91.25 VMT/yr * 1.100078 lb/VMT * 0.0005 ton/lb = 0.05 ton/yr
$PM_{10}$ = 91.25 VMT/yr * 1.060687 lb/VMT * 0.0005 ton/lb = 0.05 ton/yr

**150,000 bbl Crude Oil Tank**
Crude oil throughput: 1,287,850,242 gallon/yr
Crude Oil Vapor Pressure: RVP 9.0: 5.3093 psia (average)
Temperature: 43.2-54.4 deg F (48.8 deg F average)

Losses (working and breathing)
Internal floating roof: 8.79 ton/year

**150,000 bbl Crude Oil Tank Fugitive VOC Emissions – emissions based on EPA's "Protocol for Equipment Leak Emission Estimates," November 1995 for Light Oil >= 20 API Gravity**

Pumps: 12 pumps
Emission Factor: 0.688 lb/day/pump
Calculation: 12 pumps * 0.688 lb/day/pump *365 days/yr * 0.0005 ton/lb= 1.50 tons per year

Valves: 200 valves
Emission Factor: 0.132 lb/day/valve
Calculation: 200 valves * 0.132 lb/day/valve *365 days/yr * 0.0005 ton/lb= 4.82 tpy

Connector: 30 connectors
Emission Factor: 0.011 lb/day/connector
Calculation: 30 connectors * 0.011 lb/day/connector *365 days/yr * 0.0005 ton/lb= 0.06 tpy

Flange: 800 flanges
Emission Factor: 0.0058 lb/day/flanges
Calculation: 800 flanges * 0.0058 lb/day/flange *365 days/yr * 0.0005 ton/lb= 0.85 tpy

Open-Ended Line: 20 open-ended lines
Emission Factor: 0.074 lb/day/open-ended line
Calculation: 20 open-ended line *0.074 lb/day/open-ended line *365 days/yr *0.0005 ton/lb= 0.27 tpy

Other: 50 "other"
Emission Factor: 0.397 lb/day/"other"
Calculation: 50 "other" * 0.397 lb/day/"other" *365 days/yr * 0.0005 ton/lb= 3.62 tpy

Total fugitives from piping: 11.12 ton/yr

**Fugitive HAP Emission Calculations**

*Basis for Speciation Factors: EPA Speciate Program Profile No. 1210 – Pipeline Terminal Tanks*

| HAP | Speciation Factor (% HAP in vapor phase) | VOC Emissions (Ton/yr) | HAP Emissions (Ton/yr) |
|---|---|---|---|
| Benzene | 0.54 | 11.12 | 0.06 |
| Toluene | 0.90 | 11.12 | 0.10 |
| Ethylbenzene | 0.22 | 11.12 | 0.02 |
| Xylene | 0.89 | 11.12 | 0.10 |
| Hexane | 4.69 | 11.12 | 0.52 |
| 2,2,4 - Trimethylpentane | 3.03 | 11.12 | 0.34 |
| **Total Fugitive HAPs** | | | **1.14** |

V. Existing Air Quality

The Plains' facility is located in eastern Montana in a sparsely populated area with generally very good ventilation throughout the year. The legal description of the facility is Section 3, Township 7 North, Range 58 East, in Fallon County, Montana. Fallon County is unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.

VI. Ambient Air Impact Analysis

The surrounding area is listed as attainment/unclassified for the National Ambient Air Quality Standards (NAAQS). The facility is not expected to cause or contribute to any exceedances of the ambient air quality standards.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

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

Analysis Prepared By: Eric Thunstrom
Date: April 30, 2007

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*: Plains Pipeline, L.P.
PO Box 708
Belfield, ND 58622

*Air Quality Permit Number*: 2110-05

*Preliminary Determination Issued*: May 9, 2007
*Department Decision Issued*: May 25, 2007
*Permit Final*: June 12, 2007

1. *Legal Description of Site*: The facility is located about 10 miles west of Baker, MT on the south side of Highway 12 in Section 3, Township 7 North, Range 58 East, in Fallon County, Montana.

2. *Description of Project*: The Department received an application requesting to modify MAQP #3416-00 to install a truck loading facility adjacent to the Plains Marketing Baker Truck Crude Oil Station. The truck loading facility will consist of a LACT unit for use to purchase oil from the Plains Pipeline Baker Crude Oil Station (MAQP #2110). The Department determined that the Plains Pipeline (MAQP #2110) and Plains Marketing (MAQP #3416) constitute a single facility as defined in ARM 17.8, Subchapter 7. Because Plains Pipeline and Plains Marketing constitute a single facility, the current permit action is technically considered a modification of Plains Marketing's existing MAQP #3416-00. However, under the current permit action, Plains Marketing requested that operations at each source (Plains Marketing and Plains Pipeline) be regulated under MAQP #2110. In addition, Plains Marketing requested to revoke MAQP #3416-00.

   In addition, the Department received a letter from Plains Pipeline notifying the Department of a proposed additional 150,000-bbl nominal capacity crude oil storage tank to be constructed at the Baker Crude Oil Station. In addition to the 150,000-bbl tank, total facility throughput will be increased from 2,720 bbl/hr to 3,500 bbl/hr. This will be accomplished by replacing one of the four LACT units on site with a larger LACT. The potential emissions from the proposed project are less than the de minimis threshold of 15 tons per year. The current permit action incorporates Plains Pipeline's request into the permit.

3. *Objectives of Project*: The objectives of this project are to allow the operation of an additional crude oil storage tank, operation of a crude oil truck loading facility, and to include the operations permitted in MAQP #3416 in MAQP #2110.

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 Plains 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 Permit #2110-05.

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 | | | X | | | Yes |
| B | Water Quality, Quantity, and Distribution | | | X | | | Yes |
| C | Geology and Soil Quality, Stability and Moisture | | | X | | | Yes |
| D | Vegetation Cover, Quantity, and Quality | | | X | | | Yes |
| E | Aesthetics | | | X | | | Yes |
| F | Air Quality | | | X | | | Yes |
| G | Unique Endangered, Fragile, or Limited Environmental Resources | | | X | | | Yes |
| H | Demands on Environmental Resource of Water, Air and Energy | | | X | | | Yes |
| I | Historical and Archaeological Sites | | | X | | | Yes |
| J | Cumulative and Secondary Impacts | | | X | | | 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

Minor impacts on terrestrial or aquatic life and habitats would be expected from the proposed project because the facility would be a source of air pollutants, and because minor amounts of land disturbance would be required, such as pouring a concrete slab to hold the new equipment. While the facility would emit air pollutants and corresponding deposition of pollutants would occur, the Department determined that any impacts from deposition would be minor due to the relatively small amount of pollutants emitted (see Section 7.F of this EA), and conditions that would be placed in Permit #2110-05. Any impacts from facility construction would be minor due to the relatively small size of the project. Overall, any impacts to terrestrial and aquatic life and habitats would be minor.

B. Water Quality, Quantity and Distribution

Minor impacts would be expected on water quality, quantity, and distribution from the proposed project because of the relatively small size of the project. While the facility would emit air pollutants and corresponding deposition of pollutants would occur, the Department determined that any impacts from deposition would be minor due to the relatively small amount of pollutants emitted, (see Section 7.F of this EA), and conditions that would be placed in Permit #2110-05. In addition, facility construction will be extremely minor, such as pouring a concrete slab to hold the new equipment, and would not impact water quality, quantity, or distribution because there is no surface water on the site. Overall, any impacts to water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability and Moisture

Minor impacts would occur on the geology and soil quality, stability, and moisture from the proposed project. The impacts would be minor due to the relatively small size of the project and because minor amounts of land disturbance would be required, such as pouring a concrete slab to hold the new equipment. In addition, while deposition of pollutants would occur, the Department determined that the chance of pollutant deposition impacting the geology and soil in the areas surrounding the site would be minor due to the relatively small amount of pollutants emitted (see Section 7.F of this EA). Permit #2110-05 would contain conditions that would also minimize impacts to geology and soil by limiting the amount of equipment installed at the facility and limiting the emissions from the facility. Overall, any impacts to the geology and soil quality, stability, and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality

Any impacts to the vegetation cover, quantity, and quality from the proposed project would be minor due to the small size of the project located at an existing two-acre facility. In addition, while deposition of pollutants would occur, the Department determined that the chance of deposition of pollutants impacting the vegetation in the areas surrounding the site would be minor due to the relatively small amount of pollutants emitted (see Section 7.F of this EA). Permit #2110-05 contains conditions that would also minimize the impacts to vegetation by limiting the amount of equipment installed at the facility and limiting the emissions from the facility. Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

Minor impacts would result on the aesthetics of the area because the proposed project will add equipment to the facility (truck loading rack, flare, and crude oil storage tank). The increase in truck traffic could be considered an aesthetic impact, but the facility is located off a highway away from the general public. The facility would create minimal additional noise in the area. Overall, any aesthetic impacts would be minor due to the relatively small size of the facility and the permit conditions that would minimize emissions from the facility.

F. Air Quality

The air quality of the area would realize minor impacts from the proposed project because the facility would emit relatively small amounts of $NO_x$, VOC, $PM_{10}$, and a very small amount of HAPs. Air emissions from the facility would be minimized by conditions that would be placed in Permit #2110-05. Conditions would include, but would not be limited to, the requirement to operate BACT. Permit #2110-05 would also include conditions requiring Plains to use reasonable precautions to control fugitive dust emissions.

While deposition of pollutants would occur as a result of operating the facility, the Department determined that any air quality impacts from deposition of pollutants would be minor due to dispersion characteristics of pollutants and the atmosphere (wind speed, wind direction, ambient temperature, etc.), conditions that would be placed in Permit #2110-05, and the relatively small amount of emissions that would be generated. The Department determined that controlled emissions from the source will not cause or contribute to a violation of any ambient air quality standard. Therefore, any impacts to air quality from the proposed project would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). In this case, the area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. The NRIS search identified two species of special concern within one mile. The swamp milkweed is a species of concern found within the general area of the facility.

In addition, the facility is located within one mile of the inferred extent of the greater Sage-grouse. However, due to the minor amounts of construction that would be required at an existing 2-acre facility, the relatively low levels of pollutants that would be emitted, and conditions that would be placed in Permit #2110-05, the Department determined that the potential impacts to any species of special concern would be minor.

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

The proposed project would have impacts on the demands on the environmental resources of air and water because the facility would be a source of air pollutants. However, any impacts on the environmental resources would be minor because the facility's potential to emit would be relatively small by industrial standards

The proposed project could potentially have an impact on water supply due to the risk of spills and leaks of crude oil. The facility should have a Spill Prevention, Countermeasure and Control (SPCC) Plan to address mitigation efforts for any potential releases of crude oil. The proposed project would have minor impacts on the demand on the environmental resource of energy due to increase in electrical demand for powering additional equipment. Overall, any impacts on the demands on the environmental resources of air, water, and energy would be minor.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there have not been any previously recorded historic or archaeological sites within the proposed area. In addition, SHPO records indicated that no previous cultural resource inventories have been conducted in the area. SHPO stated that there was a low likelihood that cultural properties would be impacted and that a recommendation for a cultural resource inventory was unwarranted. However, SHPO requested to be contacted to have the site investigated if cultural materials are inadvertently discovered. Based on this information and due to the small size of the project located at an existing 2-acre facility, the Department determined that there is low likelihood that the project would impact any cultural or historic sites and that any impacts would be minor.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts on the physical and biological aspects of the human environment in the immediate area would be minor due to the relatively small size of the project. As described in Section 7E, the increase in truck traffic and potential releases of crude oil from loading transportation trucks are both potential secondary impacts. Potential emissions from the facility would be relatively small by industrial standards. The Department expects this facility to operate in compliance with all applicable rules and regulations outlined in Permit #2110-05.

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 | | | | X | | Yes |
| B | Cultural Uniqueness and Diversity | | | | X | | Yes |
| C | Local and State Tax Base and Tax Revenue | | | X | | | Yes |
| D | Agricultural or Industrial Production | | | X | | | Yes |
| E | Human Health | | | X | | | Yes |
| F | Access to and Quality of Recreational and Wilderness Activities | | | | X | | Yes |
| G | Quantity and Distribution of Employment | | | X | | | Yes |
| H | Distribution of Population | | | | X | | Yes |
| I | Demands for Government Services | | | X | | | Yes |
| J | Industrial and Commercial Activity | | | X | | | Yes |
| K | Locally Adopted Environmental Plans and Goals | | | | X | | Yes |
| L | Cumulative and Secondary Impacts | | | X | | | Yes |

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

A. Social Structures and Mores
B. Cultural Uniqueness and Diversity

The proposed project would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) or cultural uniqueness and diversity in the area because the proposed project would take place at an existing site and in an unpopulated area. The proposed project would not change the predominant use of the surrounding area and the facility would be relatively small by industrial standards.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor, if any, impacts to the local and state tax base and tax revenue because the proposed facility would be unmanned. In addition, only minor amounts of construction would be needed to complete the project.

D. Agricultural or Industrial Production

The proposed project is located at an existing site and the surrounding area is pasture or agricultural land, as well as tank farms. The crude oil station may promote future industrial production in the area. Overall, any impacts to agricultural or industrial production would be minor.

E. Human Health

The proposed project would result in only minor, if any, impacts to human health because of the relatively small quantity of potential emissions. As explained in Section 7.F of this EA, deposition of pollutants would occur. However, the Department determined that the proposed project, permitted by Permit #2110-05, would comply with all applicable air quality rules, regulations, and standards, which are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would not have any impacts on access to recreational and wilderness activities because of the relatively small size of the facility and the fact that the project is at an existing facility. The proposed project would not have impacts on the quality of recreational and wilderness activities in the area.

G. Quantity and Distribution of Employment

The proposed project would not affect the quantity and distribution of employment because the station will be unmanned. However, temporary construction-related positions could result from this project. Any impacts to the quantity and distribution of employment would be minor due to the relatively small size of the facility.

H. Distribution of Population

The proposed project would not affect distribution of population in the area because the facility would be located in a relatively remote location and would be unmanned. The proposed project would not cause a change in population in the area because the facility would be unmanned, would be relatively small by industrial standards, and the facility would only emit relatively small amounts of emissions.

I. Demands for Government Services

There would be minor impacts on demands of government services because additional time would be required by government agencies to issue Permit #2110-05 and to monitor compliance with applicable rules and standards. In addition, the roads in the area may realize a minor increase in vehicle traffic. However, any impacts on government services to regulate the minor increase in traffic would be minor due to the overall small size of the operation. Overall, any impacts on the demands for government services would be minor.

J. Industrial and Commercial Activity

Only minor impacts would be expected on the local industrial and commercial activity because the proposed project would represent only a minor increase in the industrial and commercial activity in the area. However, any new oil & gas well facilities with a PTE greater than 25 tons per year of any regulated air pollutant would be required to obtain a MAQP and the Department would perform an EA for each permit application, evaluating impacts to industrial and commercial activity for each proposed project.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals affected by issuing Permit #2110-05. The state standards would protect the proposed site and the environment surrounding the site; therefore, no impacts would occur to locally adopted environmental plans and goals.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from the proposed project would result in minor impacts to the economic and social aspects of the human environment in the immediate area due to the relatively small size of the facility. Due to the relatively small size of the project, the industrial production, employment, and tax revenue (etc.) would

not be significantly impacted by the proposed project. The Department would not expect other industries to be impacted by the proposed project and the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #2110-05. In addition, further cumulative impacts may result from other companies actively drilling in the surrounding area. The companies would be required to apply for air quality permits for additional facilities with potential emissions greater than 25 tons per year. Impacts from additional facilities that require air quality permits would be evaluated upon the Department's receipt of any future permit applications.

*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 construction and operation of an additional crude oil storage tank, operation of a crude oil truck loading facility, and to include the operations permitted in MAQP #3416 into MAQP 2110. Permit #2110-05 would include conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, there would be 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, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

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