

AIR QUALITY PERMIT

Issued To:	Exxon Mobil Corporation c/o Exxon Mobil Helena Terminal 3120 Highway 12, East Helena, Montana 59601	Permit: #2829-01 Administrative Amendment (AA) Request Received: 11/01/04 Department Decision on AA: 01/19/05 Permit Final: 02/04/05 AFS #: 049-0010
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An air quality permit, with conditions, is hereby granted to Exxon Mobil Corporation (Exxon Mobil), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

The facility is located at 3120 Highway 12 East, near the eastern boundary of the Helena city limit. The legal description of the facility property is the SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 28, Township 10 North, Range 3 West, in Lewis and Clark County, Montana.

B. Current Permit Action

On October 26, 2004, the Department of Environmental Quality (Department) received a letter from Exxon Mobil. Exxon Mobil notified the Department of a physical change to the existing distillate fuels loading rack. The change consists of the addition of a diesel fuel lubricity additive injection system. At the Department's request, Exxon Mobil provided the Potential to Emit (PTE) calculation for the proposed change on November 1, 2004. The current permit action adds the diesel fuel lubricity additive injection system to the permit according to the provisions of ARM 17.8.745. In addition, the permit was updated to reflect current permit language and rule references used by the Department. Furthermore, the name on the permit was updated from Exxon Company, USA, to Exxon Mobil.

SECTION II: Product Loading Rack and Vapor Recovery System

A. Limitations and Conditions

1. Exxon Mobil's loading rack shall be equipped with a vapor recovery system (VRU) designed to collect the organic compound liquids or vapors displaced from gasoline and distillate tank trucks during product loading (ARM 17.8.749).
2. The vapor recovery system shall be designed to prevent any Volatile Organic Compound (VOC) vapors collected at one loading rack from passing to another loading rack (ARM 17.8.749).
3. The loading of liquid product into tank trucks shall be limited to vapor-tight gasoline and distillate tank trucks using the following procedures (ARM 17.8.749):
 - a. Exxon Mobil shall obtain the vapor tightness documentation described in the test methods and procedures contained in Attachment 1 to this permit or Department of Transportation (DOT) certification methods for each gasoline and distillate tank truck that is to be loaded at the permitted loading rack;

- b. Exxon Mobil shall require the tank identification number to be recorded as each gasoline and distillate tank truck is loaded at the terminal; and
 - c. Exxon Mobil shall take the necessary steps to ensure that the non-vapor-tight gasoline and distillate tank truck will not be reloaded at the permitted loading rack until vapor tightness documentation for that tank truck is obtained.
4. Exxon Mobil shall act to ensure that loading of gasoline and distillate tank trucks at the permitted loading rack are made only into tank trucks equipped with vapor recovery equipment that is compatible with the terminal's vapor recovery system (ARM 17.8.749).
 5. Exxon Mobil shall act to ensure that the terminal's and the tank truck's vapor recovery systems are connected during each loading of a gasoline and distillate tank truck at the permitted loading rack (ARM 17.8.749).
 6. The vapor recovery and liquid loading equipment shall be designed and operated to prevent gauge pressure in the gasoline and distillate tank truck from exceeding 4,500 Pascals (Pa) (450 millimeters (mm) of water) during product loading. This level shall not be exceeded when measured by the procedures specified in the test methods and procedures contained in Attachment 1 to this permit (ARM 17.8.749).
 7. 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).
 8. The total organic compound emissions to the atmosphere from the vapor recovery system due to loading liquid product into gasoline tank trucks shall not exceed 35 milligrams per liter (mg/L) of gasoline loaded (ARM 17.8.749).
 9. Loading of gasoline and distillate tank trucks shall be restricted to the use of submerged fill (ARM 17.8.749).
 10. Hydrocarbons adsorbed in the activated carbon shall be recovered and returned to the appropriate product storage tank (ARM 17.8.749).
 11. Storage tanks annual throughputs shall be limited to the amounts listed in the following table (ARM 17.8.749):

Tank Serial #	Product	Permitted Annual Throughput (Mgal/yr)
301	Mogas	170
302	Mogas	170
302A	Mogas	170
305	Mogas	170
007	Interface	0.25
--	Interface	0.25
--	Interface	0.25
303	Diesel	100
304	Jet	100
13	Heating Oil	0.01
12	Dyed Diesel	0.06
008	Additive	0.5
009	Additive	0.5

12. Product loading shall be limited to the amounts listed in the following table (ARM 17.8.749).

Product Loaded	Permitted Annual Throughput (Mgal/yr)
Mogas	170
Interface	0.75
Additive	1
Jet	100
Diesel	100

B. Testing Requirements

1. The VRU shall be tested for total organic compounds on an every 4-years basis to demonstrate compliance with the emission limitations contained in Section II.A.8 (ARM 17.8.105).
2. Process rates during testing must be at specific conditions that are representative of maximum operating capacity or maximum permitted operating capacity, unless otherwise agreed upon by the Department and Exxon Mobil (ARM 17.8.106).
3. Exxon Mobil shall use the test methods and procedures contained in Attachments 1 and 2 to this permit to determine compliance with Sections II.A.6 and II.A.8 of this permit (ARM 17.8.105)
4. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
5. The Department may require further testing (ARM 17.8.105).

C. Inspection Requirements

Each calendar month, the vapor recovery system, the vapor control system, and each loading rack that loads gasoline and distillate tank trucks shall be inspected for total organic compounds liquid or vapor leaks during product transfer operations. For purposes

of this requirement, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a 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).

D. Recordkeeping Requirements

1. The tank truck vapor tightness documentation required in Section II.A.3 of this permit shall be kept on file at the terminal, in a permanent form, and be made available for inspection and shall be updated at least once per year to reflect current test results as determined by Environmental Protection Agency (EPA) Method 27 (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 the 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 name and signature.
3. Exxon Mobil shall maintain daily records of gasoline, distillate, interface, and additive throughput. This shall include all products shipped and received at the loading racks (ARM 17.8.749).
4. All records compiled in accordance with this permit must be maintained by Exxon Mobil 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: Product Storage Tanks

A. Limitations and Conditions

1. Exxon Mobil shall not store petroleum liquid with a maximum true vapor pressure greater than 10.5 kilo Pascals (kPa) (1.5 pounds per square inch atmospheric (psia)) in the permitted petroleum liquid storage tank unless (ARM 17.8.749):
 - a. The tank is equipped with an internal floating roof equipped with a closure seal or seals to close the space between the roof edge and tank wall;
 - b. The tank is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials; and

- c. All openings, except stub drains, are equipped with covers, lids, or seals such that:
 - i. The cover, lid, or seal is in the closed position at all times, except when in actual use;
 - ii. The automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports; and
 - iii. The rim vents are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.
- 2. Exxon Mobil shall install secondary, vapor mounted seals on Mogas storage tanks #302 and 302A by December 31, 1996 (ARM 17.8.749).

B. Inspection Requirements

For tanks equipped with a single and/or a double seal system, Exxon Mobil shall (ARM 17.8.105 and ARM 17.8.749):

- 1. Visually inspect the internal floating roof and its closure seal or seals, through roof hatches at least once every 12 months; and
- 2. Perform a complete inspection of any cover and single seal whenever the tank is emptied for non-operational reasons or at least every 10 years, whichever is more frequent.

C. Recordkeeping Requirements

- 1. Exxon Mobil shall record any change in products stored in the permitted storage tanks that are allowed within the restrictions of this permit (ARM 17.8.749).
- 2. The following records shall be maintained by Exxon Mobil, on site, for a minimum of 5 years and shall be made available to the Department upon request (ARM 17.8.749):
 - a. The types of volatile petroleum liquids stored in the permitted tanks;
 - b. The maximum true vapor pressure of the liquid as stored; and
 - c. The results of the inspections required in Section III.B of this permit.
- 3. For exempted sources containing a petroleum liquid with a true vapor pressure greater than 10.5 kPa (1.5 psia), the following records shall be maintained by Exxon Mobil, on site, for a minimum of 5 years and shall be made available to the Department upon request (ARM 17.8.749):
 - a. The average monthly storage temperature;
 - b. The type of liquid stored; and
 - c. The maximum true vapor pressure for any petroleum liquid with a true vapor pressure greater than 10.5 kPa (1.5 psia).

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

D. Reporting Requirements

1. Submit records of inspections required in Section III.B. of this permit to the Department within 60 days of the date of the inspection (ARM 17.8.749).
2. Exxon Mobil shall notify the Department of the date of inspection at least 30 days prior to the refilling of each storage vessel for which an inspection is required by Section III.B of this permit (ARM 17.8.749).

SECTION IV: Fugitive Emission Sources

A. Limitations and Conditions

Exxon Mobil shall ensure that (ARM 17.8.749):

1. All valves used shall be high quality valves containing high quality packing;
2. All open-ended valves shall be of the same quality as the valves described above. Any open-ended line or valve shall be sealed with a second valve, blind flange, cap, or plug; and
3. All pumps used in gasoline service shall be equipped with a single mechanical seal system.

B. Inspection and Repair Requirements

1. Each calendar month, all valves, flanges, pump seals, and open-ended lines shall be inspected for total organic compounds, liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable (ARM 17.8.105 and ARM 17.8.749).
2. Each calendar quarter, all pump seals shall be instrument tested for total organic compounds, liquid or vapor leaks. When an instrument reading of 10,000 parts per million (ppm) or greater is measured, or if there are indications of liquid dripping from the equipment, it shall be determined that a leak has been detected (ARM 17.8.749).
3. Exxon Mobil shall (ARM 17.8.749):
 - a. Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and
 - b. Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Section IV.B.4 below.

4. Delay of repair of equipment for which a leak has been detected will be allowed if repair is technically infeasible without a process unit shutdown. Such equipment shall be repaired before the end of the first process unit shutdown after detection of the leak.

C. Recordkeeping Requirements

A record of each monthly leak inspection required under Section IV.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):

1. Date of inspection;
2. Findings (may indicate no leaks discovered or location, nature, and severity of each leak);
3. Leak determination method;
4. Corrective action (date each leak repaired and reasons for any repair interval in excess of 15 calendar days); and
5. Inspector name and signature.

SECTION V: Additional Requirements

Operational Reporting Requirement

- A. Exxon Mobil 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 and sources identified in Section I.A of 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). Exxon Mobil shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

1. The type of petroleum liquid stored in each tank;
2. The true vapor pressure of the petroleum liquid stored in each tank;
3. The annual throughput of petroleum liquids for each tank in gallons; and
4. The annual throughput of petroleum liquids for each loading rack in gallons.

For reporting purposes, the equipment shall be identified using the tank numbers contained in Section I.A of the Permit Analysis.

- B. Exxon Mobil 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).
- C. All records compiled in accordance with this permit must be maintained by Exxon Mobil 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).

General Conditions

- A. Inspection – Exxon Mobil 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 (CEMS, 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 Exxon Mobil fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Exxon Mobil 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 Exxon Mobil may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

ATTACHMENT 1
Exxon Mobil - Helena Marketing Terminal
Test Methods and Compliance Procedures

1. In determining compliance with Section II.A.6 of this permit, the following procedures shall be used:
 - a. Calibrate and install a pressure measurement device (liquid manometer or equivalent instrument) capable of measuring up to 500 millimeters (mm) (20 inches (in.)) of water gauge pressure with ± 2.5 mm (0.10 in.) of water precision;
 - b. Connect the pressure measurement device to a pressure tap in the terminal's vapor recovery system, located as close as possible to the connection with the gasoline tank truck; and
 - c. During the performance test, record the pressure every 5 minutes while a gasoline tank truck is being loaded, and record the highest instantaneous pressure that occurs during each loading. Every loading position shall be tested at least once during the performance test.

2. In determining compliance with the mass emission limitations in Section II.A.8 of this permit, the following reference methods shall be used:
 - a. In determining volume at the exhaust vent, EPA Method 2A for all other vapor control systems; and
 - b. In determining total organic compounds concentration at the exhaust vent, EPA Method 25A or 25B. The calibration gas shall be either propane or butane.

3. Immediately prior to a performance test required to determine compliance with Sections II.A.6 and II.A.8 of this permit, all potential sources of vapor and liquid leakage from the terminal's vapor recovery system equipment shall be monitored for leaks according to the procedures in Attachment 2 to this permit. The monitoring shall be conducted only while a gasoline tank truck is being loaded. A reading of 10,000 parts per million by volume (ppmv), or greater, as methane, shall be considered a leak. All leaks shall be repaired prior to conducting the performance test.

4. The test procedure for determining compliance with Sections II.A.6 and II.A.8 of this permit is as follows:
 - a. All testing equipment shall be prepared and installed as specified in the appropriate test methods;
 - b. The time period for a performance test shall be not less than 6 hours; during which, at least 300,000 L (80,000 gal) of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs; and
 - c. For intermittent vapor control systems:
 - i. The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level; and

- ii. At least two startups and shutdowns of the vapor processor shall occur during the performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.
- d. The volume of gasoline dispensed, during the performance test period at all loading racks whose vapor emissions are controlled by the vapor processing system being tested, shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading rack;
- e. An emission testing interval shall consist of each 5-minute period during the performance test. For each interval:
 - i. The reading from each measurement instrument shall be recorded; and
 - ii. The volume exhausted and the average total organic compounds concentration in the exhaust vent shall be determined as specified in the appropriate test method. The average total organic compounds concentration shall correspond to the volume measurement by taking into account the sampling system response time.
- f. The mass emitted during each testing interval shall be calculated as follows:

$$M_{ei} = 10^{-6} KV_{es} C_e$$

where:

M_{ei} = Mass of total organic compounds (milligrams (mg)) emitted during testing interval i.

V_{es} = Volume of air-vapor mixture exhausted (cubic meters (m^3)), at standard conditions.

C_e = Total organic compounds concentration (measured as carbon) at the exhaust vent (ppmv).

K = Density of calibration gas (milligrams/cubic meter (mg/m^3)) at standard conditions (1.83×10^6 for propane; 2.41×10^6 for butane).

s = Standard conditions, 20° C and 760 millimeters of mercury (mm Hg).

- g. The total organic compounds mass emissions shall be calibrated as follows:

$$E = \frac{\sum_{i=1}^n M_{ei}}{L}$$

Where:

E = Mass of total organic compounds emitted per volume of gasoline loaded, mg/L.

L = Total volume of gasoline loaded, L.

n = Number of testing intervals.

5. Alternate test methods may be used for determining compliance only after approval from the Department.

ATTACHMENT 2
Leak Detection Methods for Volatile Organic Compounds (VOC's)
Test Methods and Compliance Procedures

1. Permittees required to carry out a leak detection monitoring program shall comply with the following requirements:
 - a. Monitoring shall be performed in accordance with EPA Method 21 of 40 Code of Federal Regulations (CFR) Part 60, Appendix A;
 - b. The detection instrument shall meet the performance criteria of EPA Method 21;
 - c. The detection instrument shall be calibrated before and after use on each day of its use by the methods specified in Method 21. Failure to achieve a post-use calibration precision of less than 10 percent shall constitute grounds for rejecting all tests performed since the last pre-use calibration. In such cases, required leak tests must be redone;
 - d. Calibration gases shall be:
 - i. Zero air (less than 10 ppm of hydrocarbon in air); and
 - ii. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.
 - e. The detection instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in EPA Method 21.
2. When equipment is tested for compliance with the requirement that there be no detectable emissions, the test shall comply with the following:
 - a. The requirements of (1)(a) through (1)(e) of this attachment shall apply and shall be met; and
 - b. The background level shall be determined as set forth in EPA Method 21.
3. Alternate test methods may be used for determining compliance only after approval from the Department.

Permit Analysis
Exxon Mobil Corporation
Helena Marketing Terminal
Permit #2829-01

I. Introduction/Process Description

Exxon Mobil Corporation (Exxon Mobil) owns and operates a bulk distribution terminal for petroleum products located at 3120 Highway 12 East, near the eastern edge of the Helena city limits. The property's legal description is the SE¼ of the NE¼ of Section 28, Township 10 North, Range 3 West, in Lewis and Clark County. The facility is known as the Helena Marketing Terminal.

A. Permitted Equipment

The facility consists of the following equipment:

Product	Serial #	Tank Type	Seal Type	Capacity (bbls)	Diameter (ft)	Year Manufactured	Permitted Throughput (Mgal/yr)	Tank Color
Mogas	301	IFR	Pri & Sec	15,000	52	1955	170	white
Mogas	302	IFR	Primary	30,000	75	1955	170	white
Mogas	302A	IFR	Primary	15,000	52	1955	170	white
Mogas	305	IFR	Pri & Sec	15,000	52	1955	170	lt gray
Interface	007	Fixed	Vented	480	12	1982	0.25	white
Interface	-	UST	Vented	36	-	1981	0.25	-
Interface	-	UST	Vented	48	-	1988	0.25	-
Diesel	303	Fixed	Vented	15,000	52	1955	100	lt gray
Jet	304	Fixed	Vented	15,000	52	1955	100	lt gray
Heating Oil	13	Horizontal	Vented	7	3	1987	0.01	white
Dyed Diesel	12	Horizontal	Vented	24	5	1993	0.06	white
Additive	008	Fixed	Vented	240	10.5	1987	0.5	white
Additive	009	Horizontal	Vented	70	6	1987	0.5	white
Lubricity	-	Horizontal	Vented	18	4	-	30	white
Product loading rack with three gasoline-loading arms and three distillate-loading arms. Gasoline and distillate loading activities are to be submerged filled with dedicated normal service. Tank truck loading and unloading of gasoline and distillate is accomplished at the product loading rack. Interface and additive unloading and interface loading is accomplished at a separate loading location away from the main loading rack.								
A John Zink Carbon Adsorption/Absorption Gasoline Vapor Recovery System (VRU) removes the gasoline and additive vapors from the incoming air/hydrocarbon vapor mixture. Interface and distillate are loaded without the use of the VRU.								
Fugitive Emissions from total facility valves, flanges, pump seals, open-ended lines, and oil/water separators.								

B. Source Description

Products manufactured in refineries are pumped to the terminal via the Yellowstone Pipeline for storage, and are then loaded directly into tractor trailers for delivery to a retail point. Due to pipeline limitations, product is also brought in via tractor trailer. Products loaded at the facility include mogas (premium and regular unleaded and leaded regular), jet fuel, several different grades of diesel, heating oil, and interface. Interface consists of the mixture of water and hydrocarbons that results from draining any off-specification product from the bottom of storage tanks; any product drained from tractor trailers prior to being loaded at the loading rack; and the product made by mixture of two adjacent products within the pipeline during transport. Additives are added at the point of loading to enhance certain desirable product characteristics. Additive arrives at the terminal via truck from a sister terminal in Billings or from the manufacturer.

The facility operates four internal floating roof tanks (#301, #302, #302A, and #305) and four cone roof tanks (303, 304, 7, and 8). The floating roof tanks store motor gasoline (Mogas). One of the cone roof tanks (304) stores jet, while a second (303) stores diesel. Additives are stored in Tanks 8 and 9. Dyed diesel is stored in tank 12. Tanks 9 and 12 are horizontal tanks. The final cone roof tank (7) stores interface. Another horizontal tank (13) stores heating oil for space heating. Total shell capacity of storage in the terminal is about 4.3 million gallons. As the plot plan shows, there are also two underground tanks used for storing interface.

Loading is affected for all products except interface at the loading rack. Products are pumped from storage on the terminal's property. Interface is loaded near the interface tanks away from the loading rack.

Each truck must have a "permissive", based on information about tightness certification contained in an on-board microchip. Without the permissive, the truck cannot be loaded without intervention by an Exxon Mobil employee. This system was installed throughout the Exxon Mobil terminal circuit to facilitate Clean Air Act, Standards of Performance for New Stationary Sources (NSPS), Department of Transportation (DOT) and state tightness certification requirements. Once a permissive has been received (the process requiring only seconds) the vapor recovery system (VRU) will then automatically activate. Although the VRU was designed to remove gasoline vapors, as standard operating practice the VRU is also used whenever distillate is being loaded.

C. Permit History

On July 22, 1994, Exxon Company, USA (Exxon), submitted a complete Montana Air Quality Permit Application to construct and operate a gasoline vapor recovery system at the Helena Marketing Terminal. In addition, Exxon requested that the permit include the entire bulk marketing terminal to establish mutually agreeable and enforceable permit limitations and conditions. Since the Helena Marketing Terminal was an existing source (operating at the same location prior to March 16, 1979), a Best Available Control Technology (BACT) determination was not required. However, a BACT analysis was submitted in the permit application and the Department of Environmental Quality (Department) used the analysis to review the existing control equipment. On September 24, 1994, Permit #2829-00 was issued to Exxon.

D. Current Permit Action

On October 26, 2004, the Department received a letter from Exxon Mobil. Exxon Mobil notified the Department of a physical change to the existing distillate fuels loading rack. The change consists of the addition of a diesel fuel lubricity additive injection system. At the

Department's request, Exxon Mobil provided the Potential to Emit (PTE) calculation for the proposed change on November 1, 2004. The current permit action adds the diesel fuel lubricity additive injection system to the permit according to the provisions of the Administrative Rules of Montana (ARM) 17.8.745. In addition, the permit was updated to reflect current permit language and rule references used by the Department. Furthermore, the name on the permit was updated from Exxon to Exxon Mobil. Permit #2829-01 replaces Permit #2829-00.

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.*, Montana Code Annotated (MCA).

Exxon Mobil 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 PM₁₀

Exxon Mobil 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 (PM). (2) Under this rule, Exxon Mobil shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne PM.
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 PM 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 PM in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 (Code of Federal Regulations (CFR) 60, NSPS. Exxon Mobil is considered an NSPS affected facility under 40 CFR 60 and is subject to the requirements of the following subparts.

40 CFR 60, Subpart A – General Provisions applies to all equipment or facilities subject to an NSPS Subpart listed below.

40 CFR 60, Subpart XX – Standards of Performance for Bulk Gasoline Terminals applies to loading racks at bulk gasoline terminals that load product into gasoline tank trucks which commenced construction or modification after December 17, 1980. Subpart XX applies to Exxon Mobils’ truck loading rack because adding the diesel lubricity container to the loading rack triggers Subpart XX.

8. 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 63. Since the emission of Hazardous Air Pollutants (HAP) from the Exxon Mobil facility is less than 10 tons per year for any individual HAP and less than 25 tons per year for all HAPs combined, the facility is not subject to the provisions of 40 CFR Part 63. Exxon Mobil is considered an “area source” of HAPs with respect to 40 CFR 63, Subpart R (the Gasoline Distribution Maximum Achievable Control Technology (MACT)).

D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.402 Requirements. Exxon Mobil must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP).

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

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Exxon Mobil was not required to submit a fee because the current permitting action is administrative.
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

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

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

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

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an 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. Exxon Mobil 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. Exxon Mobil was not required to submit an application for the current permit action because it is considered administrative.
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 BACT analysis is discussed 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 Exxon Mobil 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 17.8.762 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.
11. 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).

12. 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.
 13. 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.
- G. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source 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).

- H. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 tons/year of any pollutant;
 - b. PTE > 10 tons/year of any one 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 (PM₁₀) in a serious PM₁₀ 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 #2829-01 for Exxon Mobil, 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 PM₁₀ nonattainment area.
- d. This facility is subject to current NSPS (40 CFR 60, Subpart XX).
- e. This facility is not subject to any current NESHAP standards.
- f. This source is not a Title IV affected source, nor a solid waste combustion unit.
- g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Exxon Mobil 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, Exxon Mobil will be required to obtain a Title V Operating Permit.

III. BACT Determination

A BACT determination is required for each new or altered source. Exxon Mobil shall install on the new or altered source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. A BACT determination was not required for the current permit action because the current permit action is considered an administrative permit action.

IV. Emission Inventory

A complete emission inventory for each source within the Helena Marketing Terminal was submitted with Permit Application #2829-00. The emission inventories submitted included 1993 Base Year Emission Estimates, Proposed Annual Emissions at Average Conditions, Proposed Daily Emissions at Maximum Conditions, and Proposed Hourly Emissions at Maximum Conditions. The inventories included VOC and all hazardous air pollutants emitted at the facility. The emission inventory does not include VRU controls for distillate loading because the actual recovery efficiency is not known.

Prior to the current permit action, the Helena Marketing Terminal's PTE (based on permit limitations and conditions) was 75.75 ton per year of total VOC. The addition of the tank to store the new diesel lubricity additive would contribute an additional 0.4265 pounds per year of VOC (0.0002 tons per year). Therefore, the emission inventory submitted with Permit Application #2829-00 is still a representative emission inventory for the facility.

V. Existing Air Quality

Exxon Mobil is located in the SE¹/₄ of the NE¹/₄ of Section 28, Township 10 North, Range 3 West, in Lewis and Clark County, Montana. This area is considered attainment for all criteria pollutants. The majority of the emissions from the facility are VOC.

VI. Ambient Air Impact Analysis

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

VII. Taking or Damaging Implication Analysis

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

VIII. Environmental Assessment

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

Analysis Prepared By: Dave Aguirre

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