

CATEGORY:

**Bulk Terminal Loading Rack**

BACT Size: Minor Source BACT

**Bulk Terminal Loading Rack and VCU**

|                                       |   |
|---------------------------------------|---|
| <b>BACT Determination Number:</b> 164 | <b>BACT Determination Date:</b> 8/15/2017 |
|---------------------------------------|---|

**Equipment Information**

**Permit Number:** 25229  
**Equipment Description:** Bulk Terminal Loading Rack and VCU  
**Unit Size/Rating/Capacity:** 39.1 MMBtu/hr  
**Equipment Location:** PHILLIPS 66 COMPANY  
 76 BROADWAY  
 SACRAMENTO, CA

**BACT Determination Information**

|              |                                |   |
|--------------|--------------------------------|---|
| <b>ROCs</b>  | <b>Standard:</b>               | 0.02 lb/1000 gal  |
|              | <b>Technology Description:</b> | Bottom Loading with dry break couplers and vapor collection system venting to a vapor control unit that meets 0.02 lb/1000 gallons loaded (A) |
|              | <b>Basis:</b>                  | Achieved in Practice  |
| <b>NOx</b>   | <b>Standard:</b>               | 0.034 lb/1000 gal   |
|              | <b>Technology Description:</b> |   |
|              | <b>Basis:</b>                  | Achieved in Practice  |
| <b>SOx</b>   | <b>Standard:</b>               |   |
|              | <b>Technology Description:</b> | Natural gas or LPG fired flare  |
|              | <b>Basis:</b>                  | Achieved in Practice  |
| <b>PM10</b>  | <b>Standard:</b>               | 0.01 grains/scf   |
|              | <b>Technology Description:</b> |   |
|              | <b>Basis:</b>                  | Achieved in Practice  |
| <b>PM2.5</b> | <b>Standard:</b>               | 0.01 grains/scf   |
|              | <b>Technology Description:</b> |   |
|              | <b>Basis:</b>                  | Achieved in Practice  |
| <b>CO</b>    | <b>Standard:</b>               | 0.05 lb/1000 gal  |
|              | <b>Technology Description:</b> |   |
|              | <b>Basis:</b>                  | Achieved in Practice  |
| <b>LEAD</b>  | <b>Standard:</b>               | N/A   |
|              | <b>Technology Description:</b> |   |
|              | <b>Basis:</b>                  |   |

**Comments:** (A) Emission factor is measured in accordance with CARB Vapor Recovery Test Procedure TP-203.1 - Determination of Emission Factor of Vapor Recovery Systems of Terminals (03-17-1999) or the methods (§60.503) described in 40 CFR Part 60 Subpart XX - Standards of Performance for Bulk Gasoline Terminals, which measures total mass of VOC emitted from the vapor processor as a function of the total volume of gasoline loaded by the loading rack.

**District Contact:** Matt Baldwin Phone No.: (916) 874 - 4858 email: mbaldwin@airquality.org



## BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

**DETERMINATION NO.:** 164

**DATE:** 08/15/17

**ENGINEER:** Matt Baldwin

**Category/General Equip Description:** Bulk Terminal Loading Rack (gasoline)

**Equipment Specific Description:** Bulk Terminal Loading rack and vapor control unit (afterburner)

**Equipment Size/Rating:** 39.1 MMBtu/hr

**Previous BACT Det. No.:** None

This is a new BACT/T-BACT determination for bulk terminal loading racks. For the purposes of this determination, a bulk terminal is defined as an organic liquid distribution facility which receives organic liquid from the refinery by means other than truck. (District Rule 447, Section 203)

This BACT was determined under the project for A/Cs 25229 and 25230 (Phillips 66).

### BACT/T-BACT ANALYSIS

#### A. ACHIEVED IN PRACTICE (Rule 202, §205.1a):

The following control technologies are currently employed as BACT/T-BACT for Bulk Terminal Loading Racks:

| US EPA   |  |
|--|--|
| <b><u>BACT</u></b>                                       |  |
| <a href="#">Source: EPA RACT/BACT/LAER Clearinghouse</a> |  |
| <b>BULK TERMINAL LOADING RACK</b>                        |  |
| VOC  | 19.05 mg/L (0.1590 LB/KGAL)<br>0.014 LB/KGAL (DIESEL)<br>0.016 LB/KGAL (KEROSENE)<br>COMPLIANCE WITH NESHAP SUBPART BBBB |
| NOx  | N/A – No standard  |
| SOx  | N/A – No standard  |
| PM10   | N/A – No standard  |
| PM2.5  | N/A – No standard  |
| CO   | N/A – No standard  |
| <b>RBLC ID:</b> IN-0243 (06/03/2016)                     |  |

## US EPA

### T-BACT

There are no T-BACT standards published in the clearinghouse for this category, but the NESHAP standards (see 40 CFR, Part 63 standards below) represent Maximum Achievable Control Technology (MACT) or Generally Available Control Technology (GACT) for HAPs and can therefore be considered T-BACT,.

### RULE REQUIREMENTS:

40 CFR Part 60 Subpart XX – Standards of Performance for Bulk Gasoline Terminals. This regulation sets emission standards for loading racks and includes a requirement to operate vapor collection equipment, emission limits on the loading of liquid product, vapor tightness standards for pressure-vacuum vents on a vapor collection system, and monthly inspections for leaks.

VOC: 35 mg of total organic compounds per liter of gasoline loaded (0.29 lb/1000 gallons)

40 CFR Part 63 Subpart R – National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations). This regulation sets VOC emission standards for loading racks bulk terminals and pipeline breakout stations which are major sources of HAP. VOCs are being controlled as a surrogate for HAPs found in gasoline.

VOC: 10 mg of total organic compounds per liter of gasoline loaded (0.08 lb/1000 gallons)

40 CFR Part 63 Subpart BBBB – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities. This regulation establishes national emission limitations and management practices for VOCs emitted from area source gasoline line distribution bulk terminals, bulk plants, and pipeline facilities. VOCs are being controlled as a surrogate for HAPs found in gasoline.

VOC: 80 mg of total organic compounds per liter of gasoline loaded (0.67 lb/1000 gal)

## Air Resources Board (ARB)

### BACT

[Source: ARB BACT Clearinghouse](#)

There are no BACT standards published in the clearinghouse for this category.

### T-BACT

There are no T-BACT standards published in the clearinghouse for this category.

### RULE REQUIREMENTS:

There are no regulations with standards for this source category. However, the State Board is required to certify gasoline vapor recovery systems including bulk terminal loading racks. (H&S Code 41954).

| Sacramento Metropolitan AQMD  |
|---|
| <p><b><u>BACT</u></b><br/>           Source: SMAQMD BACT Clearinghouse</p> <p>There are no BACT standards published in the clearinghouse for this category.</p> <p><b><u>T-BACT</u></b><br/>           There are no T-BACT standards published in the clearinghouse for this category. However, since the primary VOCs controlled by the applicable District Rule include HAPs (benzene, toluene, ethylbenzene, xylene (BTEX)), compliance with the District Rule is considered T-BACT.</p> <p><b><u>RULE REQUIREMENTS:</u></b><br/> <a href="#">Rule 447 – Organic Liquid Loading</a></p> <p><u>Section 301</u> - A person shall not transfer or permit the transfer of organic liquids into any tank truck, trailer or railroad tank car from a bulk terminal unless the emissions to the atmosphere do not exceed 0.08 pounds of VOC per one thousand (1,000) gallons of organic liquids transferred as determined by a method specified in Section 501.1.</p> <p><u>Section 303</u> – Effective May 31, 1991 a person shall not load gasoline as defined in RULE 448, GASOLINE TRANSFER INTO STATIONARY STORAGE CONTAINERS into any tank truck, trailer, or railroad tank car from a bulk plant or bulk terminal unless the bulk plant or bulk terminal is equipped with a California Air Resources Board-certified vapor collection and disposal system.</p> <p><u>Section 304</u> – All equipment associated with loading facilities shall be maintained to be leak free and vapor tight.</p> |

| South Coast AQMD  |  |     |     |     |      |      |   |   |     |     |     |     |  |  |     |     |     |     |
|---|--|-----|-----|-----|------|------|---|---|-----|-----|-----|-----|--|--|-----|-----|-----|-----|
| <p><b><u>BACT</u></b><br/>           Source: <a href="#">SCAQMD BACT Guidelines for Non-Major Polluting Facilities, page 81</a></p> <table border="1"> <thead> <tr> <th>Subcategory/<br/>Rating/Size<sup>(A)</sup></th> <th>VOC</th> <th>NOx</th> <th>SOx</th> <th>CO</th> <th>PM10</th> </tr> </thead> <tbody> <tr> <td>Class A : Tank, Truck, and Rail Car Bulk Loading, (SCAQMD Rule 462)</td> <td>Compliance with SCAQMD Rule 462 (0.08 lbs/1000 Gals) (10-20-2000)</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>Classes B and C: Tank, Truck, and Rail Car Bulk Loading, (SCAQMD Rule 462)</td> <td>Bottom Loading with Vapor Collection System Vented to:<br/>           -Incinerator; or<br/>           -Compression/adsorption with Tail Gas Vented to Incinerator; or<br/>           -Refrigeration System; or<br/>           -Carbon Adsorption system and Compliance with SCAQMD Rule 462 (10-20-2000)</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p>(A) Class A facilities are those that have a throughput of more than 20,000 gallons per day. Classes B and C have throughputs of less than 20,000 gallons per day.</p> | Subcategory/<br>Rating/Size <sup>(A)</sup>   | VOC | NOx | SOx | CO   | PM10 | Class A : Tank, Truck, and Rail Car Bulk Loading, (SCAQMD Rule 462) | Compliance with SCAQMD Rule 462 (0.08 lbs/1000 Gals) (10-20-2000) | N/A | N/A | N/A | N/A | Classes B and C: Tank, Truck, and Rail Car Bulk Loading, (SCAQMD Rule 462) | Bottom Loading with Vapor Collection System Vented to:<br>-Incinerator; or<br>-Compression/adsorption with Tail Gas Vented to Incinerator; or<br>-Refrigeration System; or<br>-Carbon Adsorption system and Compliance with SCAQMD Rule 462 (10-20-2000) | N/A | N/A | N/A | N/A |
| Subcategory/<br>Rating/Size <sup>(A)</sup>  | VOC  | NOx | SOx | CO  | PM10 |      |   |   |     |     |     |     |  |  |     |     |     |     |
| Class A : Tank, Truck, and Rail Car Bulk Loading, (SCAQMD Rule 462)   | Compliance with SCAQMD Rule 462 (0.08 lbs/1000 Gals) (10-20-2000)  | N/A | N/A | N/A | N/A  |      |   |   |     |     |     |     |  |  |     |     |     |     |
| Classes B and C: Tank, Truck, and Rail Car Bulk Loading, (SCAQMD Rule 462)  | Bottom Loading with Vapor Collection System Vented to:<br>-Incinerator; or<br>-Compression/adsorption with Tail Gas Vented to Incinerator; or<br>-Refrigeration System; or<br>-Carbon Adsorption system and Compliance with SCAQMD Rule 462 (10-20-2000) | N/A | N/A | N/A | N/A  |      |   |   |     |     |     |     |  |  |     |     |     |     |

### South Coast AQMD

The applicant identified the following standards as achieved in practice:

| BULK TERMINAL LOADING RACK |                     |
|----------------------------|---------------------|
| VOC                        | 0.0565 lb/ 1000 gal |
| NOx                        | 0.034 lb/ 1000 gal  |
| SOx                        | No Standard         |
| PM10                       | 0.01 grains/scf     |
| PM2.5                      | 0.01 grains/scf     |
| CO                         | 0.0835 lb/ 1000 gal |

**Source:** South Coast AQMD [Permit to Construct AN 568675 & 56877 \(08-24-2015\)](#) for a Bulk Terminal Loading Rack and vapor collection with bladder tank and afterburner, 118 MMBtu/hr.

For the above permitting action, the VOC emission factor is limited to 0.0565 lb/1000 gallons to comply with offsetting requirements for the facility. BACT was triggered for NOx, CO, and PM10 since there was an emission increase of 1 lb/day. The SCAQMD determined that the manufacturer emission factors were considered BACT/LEAR for this source category.

#### **T-BACT**

There are no T-BACT standards published in the clearinghouse for this category. However, since the primary VOCs controlled by the VOC BACT standard include HAPs, the VOC BACT standard will be considered the T-BACT standard. This approach is consistent with the way EPA NESHAPs regulate HAP emissions from gasoline distribution facilities.

#### **RULE REQUIREMENTS:**

[Reg. IV, Rule 462 – Organic Liquid Loading](#)

This rule requires Class A Facilities (> 20,000 gallons/day) to use bottom loading and have a CARB certified or District-approved vapor recovery and/or disposal system that meets 0.08 lb VOC/1000 gallons. For Class B facilities, this rule requires bottom loading and a CARB certified or District-approved vapor recovery and/or disposal system that can recover 90 percent of displaced vapors. For Class C facilities, this rule requires submerged fill or bottom fill loading.

**San Joaquin Valley Unified APCD**

**BACT**

Source: [SJVUAPCD BACT Guideline 7.1.10](#) <sup>(A)</sup>

| Loading Rack/Switch Loading |  |
|-----------------------------|--|
| VOC                         | Bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency of $\geq 99\%$ <sup>(B)</sup> |
| NOx                         | Natural gas or LPG fired pilot and air assist  |
| SOx                         | Natural gas fired flare  |
| PM10                        | Air assisted flare with smokeless combustion   |
| PM2.5                       | No standard  |
| CO                          | Natural gas fired pilot and air assist   |

(A) BACT Guideline 7.1.10 consists of two parts – 7.1.10 A and 7.1.10 B. Guideline 7.1.10 A is for Loading Rack/Switch Loading  $\geq 384,000$  gallons/day. BACT was not triggered for SOx, PM, or CO. Guideline 7.1.10 B is for truck loading of light crude with a true vapor pressure not to exceed 6 psia. Gasoline is generally more volatile (up to 11 psia) and has different combustion characteristics from light crude. Thus, the emission standards (VOC, NOx, and PM) listed in 7.1.10 B are not applicable to a gasoline bulk terminal. However, the good combustion practices are applicable to a vapor combustor for a gasoline bulk terminal.

(B) 99% destruction efficiency equates to an emission factor of 0.12 lb/1000 gallons using the loading losses equation and assumptions for a submerged loading in a dedicated vapor balance service found in AP-42 Section 5.2.7 (06/08).

**T-BACT**

There are no T-BACT standards published in the clearinghouse for this category. However, since the primary VOCs controlled by the VOC BACT standard include HAPs, the VOC BACT standard will be considered the T-BACT standard. This approach is consistent with the way EPA NESHAPs regulate HAP emissions from gasoline distribution facilities.

**RULE REQUIREMENTS:**

[Rule 4624 – Transfer of Organic Liquid](#)

This rule requires Class 1 Facilities (> 20,000 gallons/day) to use bottom loading and have a vapor recovery and/or disposal system that meets 0.08 lb VOC/1000 gallons. For Class 2 facilities, this rule requires bottom loading and a vapor recovery and/or disposal system that can recover 95 percent of displaced vapors.

**San Diego County APCD**

**BACT**

Source: [NSR Requirements for BACT](#)

There are no BACT standards published in the clearinghouse for this category.

**T-BACT**

There are no T-BACT standards published in the clearinghouse for this category.

**RULE REQUIREMENTS:**

Regulation 4, Rule 61.2 – Transfer of Organic Compounds into Mobile Transport Tanks

This rule requires bulk gasoline facilities to use submerged filling and have a vapor recovery and/or disposal system that meets 0.29 lb VOC/1000 gallons.

**Bay Area AQMD**

**BACT**

Source: [BAAQMD BACT Guideline 109.2](#)

| Liquid Transfer & Handling – Tank Truck & Rail Car Bulk Loading (Gasoline Bulk Terminals) |   |
|---|---|
| VOC   | 0.02 lb/1000 gallons loaded<br>Submerged Loading with Vapor Collection System vented to a Thermal Oxidizer, Carbon Adsorber with vapor tank, or District Approved Equivalent. |
| NOx   | 0.10 lb/1000 gallons<br>Low-NOx combustion system   |
| SOx   | No standard   |
| PM10  | No standard   |
| PM2.5   | No standard   |
| CO  | 0.05 lb/1000 gallons<br>Good Combustion Practice  |

**T-BACT**

There are no T-BACT standards published in the clearinghouse for this category. However, since the primary VOCs controlled by the VOC BACT standard include HAPs, the VOC BACT standard will be considered the T-BACT standard. This approach is consistent with the way EPA NESHAPs regulate HAP emissions from gasoline distribution facilities.

**RULE REQUIREMENTS:**

Reg 8, Rule 6 – Organic Liquid Bulk Terminals and Bulk Plants

A person shall not transfer or allow the transfer of organic liquids from bulk terminal loading equipment unless a vapor loss control system is properly connected and used. Such transfer operations shall not emit into the atmosphere more than 21 grams of organic compounds per cubic meter (0.17 pounds per 1,000 gallons) of organic liquid loaded. Switch loading shall be subject to this standard.

The following control technologies have been identified and are ranked based on stringency:

| <b>SUMMARY OF ACHIEVED IN PRACTICE CONTROL TECHNOLOGIES</b> |  |
|---|--|
| <b>VOC</b>  | A. Bulk Terminal Loading Rack <ol style="list-style-type: none"> <li>1. Bottom loading with dry break couplers and vapor collection vented to a Vapor Control Unit [SJVUAPCD, SCAQMD]</li> <li>2. Submerged fill loading and vapor collection vented to a Vapor Control Unit [BAAQMD, SDAPCD, EPA]</li> </ol> B. Vapor Control Unit <ol style="list-style-type: none"> <li>1. 0.02 lb/1000 gallons loaded [BAAQMD]</li> <li>2. 0.0565 lb/1000 gallons loaded [SCAQMD]</li> <li>3. 0.08 lb/1000 gallons loaded [SMAQMD, SCAQMD, BAAQMD, SJVUAPCD, EPA]</li> <li>4. 99% destruction efficiency (0.12 lb/1000 gallons) [SJVUAPCD]</li> <li>5. 19.05 mg/L loaded (0.159 lb/1000 gallons) [EPA]</li> <li>6. 35 mg/L loaded (0.29 lb/1000 gallons) [SDAPCD, EPA]</li> <li>7. 80 mg/L loaded (0.6 lb/1000 gallons) [EPA]</li> </ol> |
| <b>NOx</b>  | <ol style="list-style-type: none"> <li>1. 0.034 lb/1000 gallons loaded [SCAQMD]</li> <li>2. 0.10 lb/1000 gallons loaded [BAAQMD]</li> <li>3. Natural gas or LPG fired pilot and air assist [SJVUAPCD]</li> </ol>   |
| <b>SOx</b>  | <ol style="list-style-type: none"> <li>1. Natural gas fired flare [SJVUAPCD]</li> </ol>  |
| <b>PM10</b>   | <ol style="list-style-type: none"> <li>1. 0.01 grains/scf [SCAQMD]</li> <li>2. Air assisted flare with smokeless combustion [SJVUAPCD]</li> </ol>  |
| <b>PM2.5</b>  | Not applicable   |
| <b>CO</b>   | <ol style="list-style-type: none"> <li>1. 0.05 lb/1000 gallons loaded [BAAQMD]</li> <li>2. 0.0835 lb/1000 gallons loaded [SCAQMD]</li> <li>3. Natural gas or LPG fired pilot and air assist [SJVUAPCD]</li> </ol>  |
| <b>T-BACT (BTEX)</b>  | Same as achieved in practice BACT for VOC.   |



The following control technologies have been identified as the most stringent, achieved in practice control technologies:

| <b>BEST CONTROL TECHNOLOGIES ACHIEVED</b> |  |                          |
|---|--|--------------------------|
| <b>Pollutant</b>                          | <b>Standard</b>  | <b>Source</b>            |
| <b>VOC</b>                                | Bottom Loading with dry break couplers and vapor collection system venting to a vapor control unit that meets 0.02 lb/1000 gallons loaded <sup>(A)</sup> | BAAQMD, SCAQMD, SJVUAPCD |
| <b>NOx</b>                                | 0.034 lb/1000 gallons loaded   | SCAQMD                   |
| <b>SOx</b>                                | Natural or LPG gas fired flare <sup>(B)</sup>  | SJVUAPCD                 |
| <b>PM10</b>                               | 0.01 grains/scf  | SCAQMD                   |
| <b>PM2.5</b>                              | No standard  |                          |
| <b>CO</b>                                 | 0.05 lb/1000 gallons loaded  | BAAQMD                   |
| <b>T-BACT (BTEX)</b>                      | 0.02 lb VOC/1000 gallons loaded  | BAAQMD                   |

(A) Emission factor is measured in accordance with CARB Vapor Recovery Test Procedure TP-203.1 – Determination of Emission Factor of Vapor Recovery Systems of Terminals (03-17-1999) or the methods (§60.503) described in 40 CFR Part 60 Subpart XX – Standards of Performance for Bulk Gasoline Terminals, which measures total mass of VOC emitted from the vapor processor as a function of the total volume of gasoline loaded by the loading rack

(B) The SJVUAPCD guideline lists only a natural gas flare as being BACT for SOx, although for other pollutants, LPG is included. Since LPG using the national average sulfur content of 0.54 gr/100 ft<sup>3</sup> and EPA's propane SOx emission factor of 0.1S lb/1000 gallons results in sulfur emissions equivalent to those of natural gas, the District assumes that LPG and natural gas are equivalent for purposes of achieved in practice BACT for SOx.

**B. TECHNOLOGICALLY FEASIBLE AND COST EFFECTIVE (Rule 202, §205.1.b.):**

**Technologically Feasible Alternatives:**

Any alternative basic equipment, fuel, process, emission control device or technique, singly or in combination, determined to be technologically feasible by the Air Pollution Control Officer.

The table below shows the technologically feasible alternatives identified as capable of reducing emissions beyond the levels determined to be "Achieved in Practice" as per Rule 202, §205.1.a.

| <b>Pollutant</b>        | <b>Technologically Feasible Alternative</b>         |
|-------------------------|---|
| <b>VOC</b>              | No other technologically feasible option identified |
| <b>NO<sub>x</sub></b>   | No other technologically feasible option identified |
| <b>SO<sub>x</sub></b>   | No other technologically feasible option identified |
| <b>PM<sub>10</sub></b>  | No other technologically feasible option identified |
| <b>PM<sub>2.5</sub></b> | No other technologically feasible option identified |
| <b>CO</b>               | No other technologically feasible option identified |

**Using the PM<sub>10</sub> BACT standard for PM<sub>2.5</sub>:**

Since both PM<sub>10</sub> and PM<sub>2.5</sub> trigger BACT at > 0 lb/day and PM<sub>2.5</sub> is a subset of PM<sub>10</sub>, BACT for PM<sub>2.5</sub> will be triggered whenever BACT is triggered for PM<sub>10</sub>. Additionally, combustion PM from gaseous fuel is assumed to be less than 1 µm in diameter. Therefore, BACT for PM<sub>2.5</sub> will be set to be the same as for PM<sub>10</sub>.

**C. SELECTION OF BACT:**


Based on the above analysis, BACT for VOC, NOx, SOx, PM10, and CO will remain at what is currently achieved in practice and BACT for PM2.5 will be set to be the same as for PM10.

| <b>BACT FOR BULK TERMINAL LOADING RACK VAPOR PROCESSING</b> |  |                          |
|---|--|--------------------------|
| <b>Pollutant</b>  | <b>Standard</b>  | <b>Source</b>            |
| VOC   | Bottom Loading with dry break couplers and vapor collection system venting to a vapor control unit that meets 0.02 lb/1000 gallons loaded <sup>(A)</sup> | BAAQMD, SCAQMD, SJVUAPCD |
| NOx   | 0.034 lb/1000 gallons loaded   | SCAQMD                   |
| SOx   | Natural gas or LPG fired flare   | SJVUAPCD                 |
| PM10  | 0.01 grains/scf  | SCAQMD                   |
| PM2.5   | 0.01 grains/scf  | SCAQMD                   |
| CO  | 0.05 lb/1000 gallons loaded  | BAAQMD                   |
| T-BACT (BTEX)   | 0.02 lb VOC/1000 gallons loaded (VOCs are surrogate for HAPs)  | BAAQMD                   |

(A) Emission factor is measured in accordance with CARB Vapor Recovery Test Procedure TP-203.1 – Determination of Emission Factor of Vapor Recovery Systems of Terminals (03-17-1999) or the methods (§60.503) described in 40 CFR Part 60 Subpart XX – Standards of Performance for Bulk Gasoline Terminals, which measures total mass of VOC emitted from the vapor processor as a function of the total volume of gasoline loaded by the loading rack.

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

APPROVED BY:  \_\_\_\_\_

DATE: 8/15/17

# **Attachment A**

**Review of BACT Determinations published by EPA**

List of BACT determinations published in EPA's RACT/BACT/LAER Clearinghouse (RBLC) for Gasoline Bulk Terminals

| RBLC#   | Permit Date | Process Code <sup>(B), (C)</sup> | Equipment                              | Pollutant | Standard  | Case-By-Case Basis |
|---------|-------------|----------------------------------|--|-----------|---|--------------------|
| IN-0244 | 06/03/2016  | 42.002                           | LOADING RACK                           | VOC       | 35 mg/L (0.3 LB/KGAL)<br>0.014 LB/KGAL (DIESEL)<br>0.016 LB/KGAL (KEROSENE)<br>COMPLIANCE WITH NESHAP<br>SUBPART BBBBBB | OTHER CASE-BY-CASE |
| IN-0243 | 06/03/2016  | 42.002                           | LOADING RACK                           | VOC       | 0.1590 LB/KGAL<br>0.014 LB/KGAL (DIESEL)<br>0.016 LB/KGAL (KEROSENE)<br>COMPLIANCE WITH NESHAP<br>SUBPART BBBBBB        | OTHER CASE-BY-CASE |
| IN-0231 | 07/06/2016  | 42.002                           | TRUCK LOADING RACK                     | VOC       | 35 mg/L (0.3 LB/KGAL)<br>0.014 LB/KGAL (DIESEL)<br>0.016 LB/KGAL (KEROSENE)<br>COMPLIANCE WITH NESHAP<br>SUBPART BBBBBB | OTHER CASE-BY-CASE |
| NJ-0083 | 05/02/2016  | 42.002                           | LIGHT PRODUCTS LOADING RACK (GASOLINE) | VOC       | 95% CONTROL<br>COMPLIANCE WITH NESHAP<br>SUBPARTS R AND BBBBBB  | LAER               |

= Selected as the most stringent BACT determination achieved in practice.

COMPREHENSIVE REPORT  
Report Date:07/13/2017

**Facility Information**

|                                   |   |                           |                     |
|-----------------------------------|---|---------------------------|---------------------|
| <b>RBLC ID:</b>                   | IN-0244 (final)   | <b>Date Determination</b> |                     |
|                                   |   | <b>Last Updated:</b>      | 06/03/2016          |
| <b>Corporate/Company Name:</b>    | COUNTRYMARK REFINING AND LOGISTICS, LLC   | <b>Permit Number:</b>     | 103-35351-00011     |
| <b>Facility Name:</b>             | COUNTRYMARK REFINING AND LOGISTICS, LLC   | <b>Permit Date:</b>       | 12/03/2015 (actual) |
| <b>Facility Contact:</b>          | JIM PANKEY 8128388133 JIM.PANKEY@COUNTRYMARK.COM  | <b>FRS Number:</b>        | 110007571305        |
| <b>Facility Description:</b>      | STATIONARY BULK PETROLEUM STORAGE AND WHOLESALE FACILITY.   | <b>SIC Code:</b>          | 5171                |
| <b>Permit Type:</b>               | B: Add new process to existing facility   | <b>NAICS Code:</b>        | 424710              |
| <b>Permit URL:</b>                | HTTP:PERMITS.AIR.IDEM.IN.GOV/35351F.PDF   | <b>COUNTRY:</b>           | USA                 |
| <b>EPA Region:</b>                | 5   |                           |                     |
| <b>Facility County:</b>           | MIAMI   |                           |                     |
| <b>Facility State:</b>            | IN  |                           |                     |
| <b>Facility ZIP Code:</b>         | 46970   |                           |                     |
| <b>Permit Issued By:</b>          | INDIANA DEPT OF ENV MGMT, OFC OF AIR (Agency Name)<br>MR. MATT STUCKEY(Agency Contact) (317) 233-0203 mstuckey@idem.in.gov                    |                           |                     |
| <b>Other Agency Contact Info:</b> | PERMIT WRITER: ANGELA TAYLOR<br>317-234-5329<br>ATAYLOR@IDEM.IN.GOV<br>SECTION CHIEF: CHRYSYAL WAGNER<br>317-234-1203<br>CAWAGNER@IDEM.IN.GOV |                           |                     |

Permit Notes:

**Process/Pollutant Information**

**PROCESS NAME:** LOADING RACK  
**Process Type:** 42.002 (Gasoline Bulk Terminals)  
**Primary Fuel:** GASOLINE  
**Throughput:** 404.71 MMGAL  
**Process Notes:**

**POLLUTANT NAME:** Volatile Organic Compounds (VOC)  
**CAS Number:** VOC  
**Test Method:** Unspecified  
**Pollutant Group(s):** ( Volatile Organic Compounds (VOC) )  
**Emission Limit 1:** 35.0000 MG/L  
**Emission Limit 2:** 404.7120 MMGAL/YR 12 MONTH ROLLING AVERAGE

**Standard Emission:**

**Did factors, other than air pollution technology considerations influence the BACT decisions:** N

**Case-by-Case Basis:** OTHER CASE-BY-CASE

**Other Applicable Requirements:** NSPS , NESHAP

**Control Method:** (A) RELIEF STACK, A VAPOR KNOCKOUT BOX, AND A FLARE VAPOR CONTROL UNIT

**Est. % Efficiency:**

**Cost Effectiveness:** 0 \$/ton

**Incremental Cost Effectiveness:** 0 \$/ton

**Compliance Verified:** Unknown

**Pollutant/Compliance Notes:** STATE BACT (A) THE VAPOR COMBUSTION UNIT SHALL BE IN OPERATION AT ALL TIMES THE TRUCK LOADING RACK IS LOADING GASOLINE AND/OR ETHANOL. (C) THE VOC EMISSIONS FROM THE TRUCK LOADING RACK WHEN LOADING DIESEL FUEL SHALL NOT EXCEED 0.014 LB/KGAL. (D) THE VOC EMISSIONS FROM THE TRUCK LOADING RACK WHEN LOADING KEROSENE SHALL NOT EXCEED 0.016 POUND PER KILOGALLON (LB/KGAL). (E) THE PERMITTEE SHALL COMPLY WITH THE FOLLOWING LEAK PREVENTION MEASURES AND LOADING PRACTICES: (1) THE PERMITTEE SHALL LOAD ONLY GASOLINE, DISTILLATE (DIESEL AND KEROSENE) FUELS INTO CARGO TANKS AT THE TRUCK LOADING RACK USING SUBMERGED FILLING. (2) MEASURES MUST BE TAKEN TO MINIMIZE GASOLINE OR DISTILLATE FUEL SPILLS. (3) SPILLS SHALL BE CLEANED UP AS EXPEDITIOUSLY AS PRACTICABLE. (4) MINIMIZE FUEL SENT TO OPEN WASTE COLLECTION SYSTEMS THAT COLLECT AND TRANSPORT FUEL TO RECLAMATION AND RECYCLING DEVICES, SUCH AS OIL/WATER SEPARATORS. (5) THE OWNER/OPERATOR OF THIS BULK GASOLINE TERMINAL SHALL NOT PERMIT THE LOADING OF GASOLINE INTO ANY TRANSPORT UNLESS: (A) TO ENSURE THAT LEAKLESS TANK TRUCKS ARE USED, PROPER OPERATING PROCEDURES AND PERIODIC MAINTENANCE OF HATCHES, P-V VALVES AND LIQUID AND GASEOUS CONNECTIONS MUST BE PERFORMED. THE OWNER OR OPERATOR SHALL OBTAIN THE VAPOR TIGHTNESS DOCUMENTATION DESCRIBED IN §60.505(B) FOR

EACH GASOLINE TANK TRUCK WHICH IS TO BE LOADED AT THE LOADING RACK. (B) THE OWNER OR OPERATOR SHALL REQUIRE THE TANK IDENTIFICATION NUMBER TO BE RECORDED AS EACH GASOLINE TANK TRUCK IS LOADED AT THE AFFECTED FACILITY. (1) THE OWNER OR OPERATOR SHALL CROSS-CHECK EACH TANK IDENTIFICATION NUMBER OBTAINED IN PARAGRAPH (E)(2) OF THIS SECTION WITH THE FILE OF TANK VAPOR TIGHTNESS DOCUMENTATION WITHIN 2 WEEKS AFTER THE CORRESPONDING TANK IS LOADED, UNLESS EITHER OF THE FOLLOWING CONDITION CONDITIONS IS MAINTAINED: (1) IF LESS THAN AN AVERAGE OF ONE GASOLINE TANK TRUCK PER MONTH OVER THE LAST 26 WEEKS IS LOADED WITHOUT VAPOR TIGHTNESS DOCUMENTATION THEN THE DOCU

### Facility Information

|                                   |  |                           |                     |
|-----------------------------------|--|---------------------------|---------------------|
| <b>RBLC ID:</b>                   | IN-0243 (final)  | <b>Date Determination</b> |                     |
|                                   |  | <b>Last Updated:</b>      | 06/03/2016          |
| <b>Corporate/Company Name:</b>    | MARATHON PETROLEUM COMPANY LP  | <b>Permit Number:</b>     | 129-34987-00005     |
| <b>Facility Name:</b>             | MARATHON PETROLEUM COMPANY LP  | <b>Permit Date:</b>       | 08/14/2015 (actual) |
| <b>Facility Contact:</b>          | WG MOORE 4194213774  | <b>FRS Number:</b>        | 110064142850        |
| <b>Facility Description:</b>      | STATIONARY PETROLEUM STORAGE AND DISTRIBUTION TERMINAL. SOURCE HAS NEW NAME  | <b>SIC Code:</b>          | 5171                |
| <b>Permit Type:</b>               | B: Add new process to existing facility  | <b>NAICS Code:</b>        | 424710              |
| <b>Permit URL:</b>                | HTTP:PERMITS.AIR.IDEM.IN.GOV/34987F.PDF  | <b>COUNTRY:</b>           | USA                 |
| <b>EPA Region:</b>                | 5  |                           |                     |
| <b>Facility County:</b>           | POSEY  |                           |                     |
| <b>Facility State:</b>            | IN   |                           |                     |
| <b>Facility ZIP Code:</b>         | 47620  |                           |                     |
| <b>Permit Issued By:</b>          | INDIANA DEPT OF ENV MGMT, OFC OF AIR (Agency Name)<br>MR. MATT STUCKEY(Agency Contact) (317) 233-0203 mstuckey@idem.in.gov                       |                           |                     |
| <b>Other Agency Contact Info:</b> | PERMIT WRITER: ANGELA TAYLOR<br>317-234-5329<br>ATAYLOR@IDEM.IN.GOV<br>SECTION CHIEF: CHRYSYAL A. WAGNER<br>317-234-1203<br>CAWAGNER@IDEM.IN.GOV |                           |                     |
| <b>Permit Notes:</b>              | SOURCE HAS NEW NAME  |                           |                     |

### Process/Pollutant Information

|                       |                                  |
|-----------------------|----------------------------------|
| <b>PROCESS NAME:</b>  | LOADING RACK                     |
| <b>Process Type:</b>  | 42.002 (Gasoline Bulk Terminals) |
| <b>Primary Fuel:</b>  | GASOLINE                         |
| <b>Throughput:</b>    | 741.20 MMGAL                     |
| <b>Process Notes:</b> |                                  |

|  |   |
|--|---|
| <b>POLLUTANT NAME:</b>   | Volatile Organic Compounds (VOC)            |
| <b>CAS Number:</b>   | VOC   |
| <b>Test Method:</b>  | Unspecified                                 |
| <b>Pollutant Group(s):</b>   | ( Volatile Organic Compounds (VOC) )        |
| <b>Emission Limit 1:</b>   | 0.1590 LB/GAL                               |
| <b>Emission Limit 2:</b>   | 741.1950 MMGAL/YR 12 MONTH ROLLING AVERAGE  |
| <b>Standard Emission:</b>  |   |
| <b>Did factors, other than air pollution technology considerations influence the BACT decisions:</b> | U   |
| <b>Case-by-Case Basis:</b>   | OTHER CASE-BY-CASE                          |
| <b>Other Applicable Requirements:</b>  |   |
| <b>Control Method:</b>   | (A) VAPOR RECOVERY UNIT (CARBON ADSORPTION) |
| <b>Est. % Efficiency:</b>  |   |
| <b>Cost Effectiveness:</b>   | 0 \$/ton                                    |
| <b>Incremental Cost Effectiveness:</b>   | 0 \$/ton                                    |
| <b>Compliance Verified:</b>  | Unknown                                     |

**Pollutant/Compliance Notes:** STATE BACT (A) THE VAPOR RECOVERY UNIT (VRU) ASSOCIATED W/TRUCK LOADING RACK & BARGE LOADING RACK SHALL OPERATE AT ALL TIMES THAT THESE LOADING RACKS ARE IN OPERATION & LOADING GASOLINE AND/OR ETHANOL. (B) THE VOC EMISSIONS FROM THE VAPOR RECOVERY UNIT (VRU) ASSOCIATED W/TRUCK LOADING RACK & BARGE LOADING RACK WHEN LOADING GASOLINE AND/OR ETHANOL SHALL NOT EXCEED 19.05MG/L (0.159LB/KGAL). (C) THE VOC EMISSIONS FROM THE TRUCK LOADING RACK WHEN LOADING DIESEL FUEL SHALL NOT EXCEED 0.014 LB PER KILOGALLON (LB/KGAL). (D) THE VOC EMISSIONS FROM THE BARGE LOADING RACK WHEN LOADING DIESEL FUEL SHALL NOT EXCEED 0.012 LB/KGAL. (E) THE PERMITTEE SHALL COMPLY WITH THE FOLLOWING LEAK PREVENTION MEASURES & LOADING PRACTICES: (1) THE PERMITTEE SHALL LOAD ONLY GASOLINE AND OR ETHANOL & DIESEL FUELS INTO CARGO TANKS AT THE TRUCK & BARGE LOADING RACKS USING SUBMERGED FILLING. (2) MEASURES MUST BE TAKEN TO MINIMIZE GASOLINE AND/OR ETHANOL & DIESEL FUEL SPILLS. (3) SPILLS SHALL BE CLEANED UP AS EXPEDITIOUSLY AS PRACTICABLE. (4) MINIMIZE FUEL SENT TO OPEN WASTE COLLECTION SYSTEMS THAT COLLECT & TRANSPORT FUEL TO RECLAMATION & RECYCLING DEVICES, SUCH AS OIL/WATER SEPARATORS. (5) THE OWNER/OPERATOR OF THIS BULK GASOLINE TERMINAL SHALL NOT PERMIT THE LOADING OF GASOLINE AND/OR ETHANOL INTO ANY TRANSPORT UNLESS: (A) TO ENSURE THAT LEAKLESS TANK TRUCKS ARE USED, PROPER OPERATING PROCEDURES AND PERIODIC MAINTENANCE OF HATCHES, P-V VALVES AND LIQUID AND GASEOUS CONNECTIONS MUST BE PERFORMED. THE OWNER OR OPERATOR SHALL OBTAIN THE VAPOR TIGHTNESS DOCUMENTATION DESCRIBED IN §60.505(B) FOR EACH GASOLINE TANK TRUCK WHICH IS TO BE LOADED AT THE TRUCK AND BARGE LOADING RACKS. (B) THE OWNER OR OPERATOR SHALL REQUIRE THE TANK IDENTIFICATION NUMBER TO BE RECORDED AS EACH GASOLINE TANK TRUCK IS LOADED AT THE AFFECTED FACILITY. (1) THE OWNER OR OPERATOR SHALL CROSS-CHECK EACH TANK IDENTIFICATION NUMBER OBTAINED IN PARAGRAPH(E)(2) OF THIS SECTION W/

### Facility Information

|                                   |  |                           |                     |
|-----------------------------------|--|---------------------------|---------------------|
| <b>RBLC ID:</b>                   | IN-0231 (final)  | <b>Date Determination</b> |                     |
|                                   |  | <b>Last Updated:</b>      | 07/06/2016          |
| <b>Corporate/Company Name:</b>    | COUNTRYMARK REFINING & LOGISTICS, LLC  | <b>Permit Number:</b>     | 055-35558-00003     |
| <b>Facility Name:</b>             | COUNTRYMARK REFINING & LOGISTICS, LLC  | <b>Permit Date:</b>       | 06/30/2015 (actual) |
| <b>Facility Contact:</b>          | DAVID HERTZING 8128388543  | <b>FRS Number:</b>        | 110007054926        |
| <b>Facility Description:</b>      | BULK STORAGE AND WHOLESALE PETROLEUM PRODUCTS  | <b>SIC Code:</b>          | 5171                |
| <b>Permit Type:</b>               | C: Modify process at existing facility   | <b>NAICS Code:</b>        | 424710              |
| <b>Permit URL:</b>                | HTTP:PERMITS.AIR.IDEM.IN.GOV/35558F.PDF  |                           |                     |
| <b>EPA Region:</b>                | 5  | <b>COUNTRY:</b>           | USA                 |
| <b>Facility County:</b>           | GREENE   |                           |                     |
| <b>Facility State:</b>            | IN   |                           |                     |
| <b>Facility ZIP Code:</b>         | 47465  |                           |                     |
| <b>Permit Issued By:</b>          | INDIANA DEPT OF ENV MGMT, OFC OF AIR (Agency Name)<br>MR. MATT STUCKEY(Agency Contact) (317) 233-0203 mstuckey@idem.in.gov |                           |                     |
| <b>Other Agency Contact Info:</b> | PERMIT WRITER: AIDA DEGUZMAN<br>317-233-4972<br>ADEGUZMA@IDEM.IN.GOV<br>SECTION CHIEF: CHRYSTAL WAGNER<br>317-234-1203     |                           |                     |

Permit Notes:

### Process/Pollutant Information

**PROCESS NAME:** TRUCK LOADING RACK  
**Process Type:** 42.002 (Gasoline Bulk Terminals)  
**Primary Fuel:**  
**Throughput:** 46200.00 GAL/H  
**Process Notes:**

**POLLUTANT NAME:** Volatile Organic Compounds (VOC)  
**CAS Number:** VOC  
**Test Method:** Unspecified  
**Pollutant Group(s):** (Volatile Organic Compounds (VOC))  
**Emission Limit 1:** 35.0000 MG/LITER  
**Emission Limit 2:**  
**Standard Emission:**

Did factors, other than air pollution technology considerations influence the BACT decisions: U

**Case-by-Case Basis:** OTHER CASE-BY-CASE

**Other Applicable Requirements:**

**Control Method:** (B) test method - 1



**Est. % Efficiency:**  
**Cost Effectiveness:** 0 \$/ton  
**Incremental Cost Effectiveness:** 0 \$/ton  
**Compliance Verified:** Unknown  
**Pollutant/Compliance Notes:** (1)THE VOC EMISSIONS FROM THE TRUCK LOADING RACK WHEN LOADING DIESEL FUEL SHALL NOT EXCEED 0.014 LB/KGAL. (2)THE VOC EMISSIONS FROM THE TRUCK LOADING RACK WHEN LOADING KEROSENE SHALL NOT EXCEED 0.016 POUND PER KILOGALLON (LB/KGAL). (3)THE PERMITTEE SHALL COMPLY WITH THE FOLLOWING LEAK PREVENTION MEASURES AND LOADING PRACTICES: (I)THE PERMITTEE SHALL LOAD ONLY GASOLINE, DISTILLATE (DIESEL AND KEROSENE) FUELS INTO CARGO TANKS AT THE TRUCK LOADING RACK USING SUBMERGED FILLING. (II)MEASURES MUST BE TAKEN TO MINIMIZE GASOLINE OR DISTILLATE FUEL SPILLS. (III)SPILLS SHALL BE CLEANED UP AS EXPEDITIOUSLY AS PRACTICABLE. (IV)MINIMIZE FUEL SENT TO OPEN WASTE COLLECTION SYSTEMS THAT COLLECT AND TRANSPORT FUEL TO RECLAMATION AND RECYCLING DEVICES, SUCH AS OIL/WATER SEPARATORS. (6)THE OWNER/OPERATOR OF THIS BULK GASOLINE TERMINAL SHALL NOT PERMIT THE LOADING OF GASOLINE INTO ANY TRANSPORT UNLESS: (I)TO ENSURE THAT LEAKLESS TANK TRUCKS ARE USED, PROPER OPERATING PROCEDURES AND PERIODIC MAINTENANCE OF HATCHES, P-V VALVES AND LIQUID AND GASEOUS CONNECTIONS MUST BE PERFORMED. THE OWNER OR OPERATOR SHALL OBTAIN THE VAPOR TIGHTNESS DOCUMENTATION DESCRIBED IN §60.505(B) FOR EACH GASOLINE TANK TRUCK WHICH IS TO BE LOADED AT THE LOADING RACK. (II) THE OWNER OR OPERATOR SHALL REQUIRE THE TANK IDENTIFICATION NUMBER TO BE RECORDED AS EACH GASOLINE TANK TRUCK IS LOADED AT THE AFFECTED FACILITY. (1) THE OWNER OR OPERATOR SHALL CROSS-CHECK EACH TANK IDENTIFICATION NUMBER OBTAINED IN PARAGRAPH (E)(2) OF THIS SECTION WITH THE FILE OF TANK VAPOR TIGHTNESS DOCUMENTATION WITHIN 2 WEEKS AFTER THE CORRESPONDING TANK IS LOADED, UNLESS EITHER OF THE FOLLOWING CONDITIONS IS MAINTAINED: (A) IF LESS THAN AN AVERAGE OF ONE GASOLINE TANK TRUCK PER MONTH OVER THE LAST 26 WEEKS IS LOADED WITHOUT VAPOR TIGHTNESS DOCUMENTATION THEN THE DOCUMENTATION CROSS-CHECK SHALL BE PERFORMED EACH QUARTER; OR (B) IF LESS THAN AN AVERAGE OF ONE GASOLINE TANK TRUCK.

## Facility Information

**RBLC ID:** NJ-0083 (final)  
**Corporate/Company Name:** COLONIAL PIPELINE  
**Facility Name:** COLONIAL PIPELINE CO LINDEN JCT TANK FARM  
**Facility Contact:** ALLEN KRESSLEY (732)734-2050 AKRESSLEY@COLPIPE.COM  
**Facility Description:** Petroleum pipeline breakout station  
**Permit Type:** B: Add new process to existing facility  
**Permit URL:** [http://datamine2.state.nj.us/DEP\\_OPRA/OpraMain/REPORT\\_FACADE?id=a8acb14d9d3f4b1ed49bfb952e12a641fde1122ac0f5d1217e9938b3612795d0decc0b282a87fcd5267954f6c3d16a3450764cfda6b46a0f4c0161c228a622cb68baec4c3656669a71adb7b1bd8c7d987945fa168fd23ba](http://datamine2.state.nj.us/DEP_OPRA/OpraMain/REPORT_FACADE?id=a8acb14d9d3f4b1ed49bfb952e12a641fde1122ac0f5d1217e9938b3612795d0decc0b282a87fcd5267954f6c3d16a3450764cfda6b46a0f4c0161c228a622cb68baec4c3656669a71adb7b1bd8c7d987945fa168fd23ba)  
**EPA Region:** 2  
**Facility County:** MIDDLESEX  
**Facility State:** NJ  
**Facility ZIP Code:** 07001-2224  
**Permit Issued By:** NEW JERSEY DEPT OF ENV PROTECTION, DIVISION OF AIR QUALITY (Agency Name)  
 ALIYA KHAN(Agency Contact) (609)292-2169 Aliya.Khan@dep.nj.gov  
**Other Agency Contact Info:** Supervisor: Kevin Greener, kevin.greener@dep.nj.gov  
 Permit Evaluator: Christopher Schwalje, Chris.Schwalje@dep.nj.gov  
**Permit Notes:** The project was a facility expansion to install 26 internal floating roof storage tanks for gasoline and distillate oil with Reid vapor pressure (RVP)  
**Affected Boundaries:**

| Boundary Type: | Class 1 Area State: | Boundary:  | Distance:    |
|----------------|---------------------|------------|--------------|
| CLASS1         | NJ                  | Brigantine | 100km - 50km |

**Facility-wide Emissions:**

| Pollutant Name:                  | Facility-wide Emissions Increase: |
|----------------------------------|-----------------------------------|
| Carbon Monoxide                  | 7.4000 (Tons/Year)                |
| Nitrogen Oxides (NOx)            | 11.6000 (Tons/Year)               |
| Particulate Matter (PM)          | 0.8600 (Tons/Year)                |
| Volatile Organic Compounds (VOC) | 50.0000 (Tons/Year)               |

**Date Determination Last Updated:** 05/02/2016  
**Permit Number:** 18046 / BOP130002  
**Permit Date:** 03/11/2014 (actual)  
**FRS Number:** 110014866118  
**SIC Code:** 4613  
**NAICS Code:** 486910  
**COUNTRY:** USA

## Process/Pollutant Information

**PROCESS NAME:** 26 Internal floating roof storage tanks for materials with RVP

**Process Type:** 42.006 (Petroleum Liquid Storage in Floating Roof Tanks)

**Primary Fuel:** Material with RVP

**Throughput:** 2072718.00 MGAL/YR

**Process Notes:** The throughput of 2,072,718.0 MGAL/YR is for 26 tanks. The tanks have welded steel internal floating roofs with a double seal configuration that comply with the requirements of New Jersey Enhanced VOC RACT rules (N.J.A.C. 7:27-16). The welded steel roofs are designed to eliminate deck seam losses and VOC emissions from roof landing and cleaning operations are vented to a vapor combustion unit (95% VOC control).

**POLLUTANT NAME:** Volatile Organic Compounds (VOC)

**CAS Number:** VOC

**Test Method:** Unspecified

**Pollutant Group(s):** ( Volatile Organic Compounds (VOC) )  
**Emission Limit 1:**  
**Emission Limit 2:**  
**Standard Emission:**  
**Did factors, other than air pollution technology considerations influence the BACT decisions:** U  
**Case-by-Case Basis:** LAER  
**Other Applicable Requirements:** NSPS , OPERATING PERMIT , OTHER  
**Control Method:** (A) Vapor combustion unit for cleaning & roof landings  
**Est. % Efficiency:** 95.000  
**Cost Effectiveness:** 0 \$/ton  
**Incremental Cost Effectiveness:** 0 \$/ton  
**Compliance Verified:** Unknown  
**Pollutant/Compliance Notes:** Other Applicable Requirements: The tanks are also subject to NSPS Subpart Kb and GACT Subpart BBBB. The twenty six internal floating roof tanks for materials with RVP

Process/Pollutant Information

**PROCESS NAME:** Light Products Loading Rack  
**Process Type:** 42.002 (Gasoline Bulk Terminals)  
**Primary Fuel:** Gasoline  
**Throughput:** 441.50 MMgal/yr  
**Process Notes:** The loading rack complies with 40 CFR 63 Subpart R, uses vacuum assist to eliminate fugitive emissions, and uses a vapor recovery unit to reduce outlet VOC emissions to

**POLLUTANT NAME:** Volatile Organic Compounds (VOC)  
**CAS Number:** VOC  
**Test Method:** Unspecified  
**Pollutant Group(s):** ( Volatile Organic Compounds (VOC) )  
**Emission Limit 1:** 0.4200 LB/H  
**Emission Limit 2:**  
**Standard Emission:**  
**Did factors, other than air pollution technology considerations influence the BACT decisions:** U  
**Case-by-Case Basis:** LAER  
**Other Applicable Requirements:** MACT , OPERATING PERMIT , NSPS , OTHER  
**Control Method:** (A) Vapor Recovery Unit  
**Est. % Efficiency:** 95.000  
**Cost Effectiveness:** 0 \$/ton  
**Incremental Cost Effectiveness:** 0 \$/ton  
**Compliance Verified:** Unknown  
**Pollutant/Compliance Notes:** Other Applicable Requirements: Also subject to GACT BBBB

Process/Pollutant Information

**PROCESS NAME:** Transmix Processing Unit with gas-fired process heaters  
**Process Type:** 19.600 (Misc. Boilers, Furnaces, Heaters)  
**Primary Fuel:** Natural Gas  
**Throughput:** 171.80 MMscf/yr  
**Process Notes:** The unit vents VOC emissions to a vapor combustion unit (95% control efficiency), controls VOC emissions during cleaning operations, and meets New Jersey State of the Art Manual requirements for boilers and process heaters with heat input  $\geq 10$  MMBTU/hr but

**POLLUTANT NAME:** Volatile Organic Compounds (VOC)  
**CAS Number:** VOC  
**Test Method:** Unspecified  
**Pollutant Group(s):** ( Volatile Organic Compounds (VOC) )  
**Emission Limit 1:** 0.1100 LB/H

**Emission Limit 2:** 0.0050 LB/MMBTU

**Standard Emission:**

**Did factors, other than air pollution technology considerations influence the BACT decisions:** U

**Case-by-Case Basis:** LAER

**Other Applicable Requirements:** NSPS , OPERATING PERMIT , OTHER

**Control Method:** (A) Vapor Combustion Unit

**Est. % Efficiency:** 95.000

**Cost Effectiveness:** 0 \$/ton

**Incremental Cost Effectiveness:** 0 \$/ton

**Compliance Verified:** Unknown

**Pollutant/Compliance Notes:** Other Applicable Requirements: subject to New Jersey State Of The Art (SOTA) Manual for Boilers and Process heaters