**PROPOSED**

**PERMIT APPLICATION REVIEW**
**COVERED SOURCE PERMIT NO. 0079-01-C**
**Renewal Application No. 0079-04**

**Applicant:** Chevron Products Company
**Facility:** Hilo Marketing Terminal
**Located At:** 666 Kalanianaole Avenue, Hilo, Hawaii

***Mailing Address:** 666 Kalanianaole Avenue
Hilo, Hawaii 96720

**Coordinates:** UTM: 284,700 meters East and 2,182,560 meters North (load rack)

| **Responsible Official:** | Ms. Deb K. Smith | **Contact:** | Todd E. Osterberh |
|---|---|---|---|
| **Title:** | Terminal Manager | **Title:** | HES Specialist,Transportation and Operations |
| **Phone:** | (808) 961-3634 | **Phone:** | (808) 527-2747 |
| **Address:** | *See Above | **Address:** | 777 North Nimitz Highway<br>Honolulu, Hawaii 96817 |

## 1. Background.

1.1 Chevron Products Company has applied for a renewal to its covered source permit for operating Hilo Marketing Terminal. Products distributed at the terminal include motor gasoline mixed with denatured ethanol, diesel fuel, jet fuel, and fuel oil No. 6. Product is delivered to the terminal by barge. The terminal has a bottom loading load rack equipped with a vapor combustion system to control volatile organic compound (VOC) emissions. The load rack has two tank truck loading lanes with a eleven (11) total combined load arms. Tanks currently permitted at the facility are Tank Nos. 2, 3, 9, 10, 15, and 17. Internal floating roofs are specified for all permitted tanks to control VOC emissions. The terminal has one top loading load rack for loading tank trucks to supply fuel oil No. 6 to power plants on the island. The Standard Industrial Classification Code for this terminal is 5171 (Petroleum Bulk Stations and Terminals – Whole Sale).

1.2 The listing of Tank No. 13 as an insignificant activity is being revised. The applicant indicated that Hilo terminal was recently awarded a contract to supply approximately 11,000 barrels of naphtha per week to a local power company by June 2012. Therefore, Tank No. 13 will need to be upgraded for storing naphtha (whole straight-run gasoline). Upgrades to the tank will include construction of an internal floating roof and installation of piping from the tank to the load rack and associated loading components. For the permit renewal, Tank No. 13 will be a permitted source instead of an insignificant activity.

1.3 Naphtha needs to be added to the product throughput limit specified in the permit for the bottom loading rack. The load rack is currently limited to a total combined motor gasoline and aviation gasoline throughput of 985,522 barrels per year (41,391,924 gallons per year). For the permit renewal, naphtha will be added to the total combined throughput limit specified in the permit for loading motor gasoline and aviation gasoline.

1.4 The listing of Tank No. 2 as a permitted source will be revised. The previous permit application indicated that Tank No. 2 was out of service, but would be put into gasoline service. It was stated that seals in Tank No. 2 would be repaired or fitted with mechanical shoe seals prior to putting the tank back into service. The permit renewal application now indicates that Tank No. 2 is a fixed cone roof tank that is storing diesel. For the permit renewal, Tank No. 2 will be removed from the list of permitted equipment and listed as an insignificant activity.

1.5 The terminal does not distribute aviation gasoline, however provisions will remain in the permit for loading this product for flexibility. Aviation gasoline and motor gasoline are distributed separately to prevent lead contamination of the motor gasoline if loading both aviation gasoline and motor gasoline at the load rack. Aviation gasoline is transported by barge in special tanks that can be transported by truck directly to the airport.

1.6 Chevron Products Company has experienced difficulties in supplying gasoline that is blended with 10% ethanol. For blending, denatured ethanol is limited to 5% water content because water content above 0.5% in the gasoline/ethanol blend causes ethanol to drop out of the gasoline. The State requirement is a 90% gasoline to 10% ethanol blend ratio, and 5% water content in a 90%/10% gasoline/ethanol blend is 0.5% water in the blend. Ethanol has a high affinity for water, and an increase in density occurs when ethanol combines with water which causes the ethanol to drop out of the gasoline. If ethanol drops out of the gasoline, the octane of the fuel will drop. Gasoline is refined with a lower octane to counteract a raise in octane that occurs when blending ethanol with gasoline.

1.7 Tanks provide a means to dewater product. Water has a higher density than gasoline and denatured ethanol. The storage tanks have a sump at the bottom of the tank where water settles. Water is removed from tanks through piping extending from the sump to the tank exterior.

## 2. <u>Applicable Requirements</u>

2.1 Hawaii Administrative Rules (HAR)

- Chapter 11-59, Ambient Air Quality Standards
- Chapter 11-60.1, Air Pollution Control
  - Subchapter 1, General Requirements
  - Subchapter 2, General Prohibitions
    - §11-60.1-31 Applicability
    - §11-60.1-31 Storage of Volatile Organic Compounds
    - §11-60.1-41 Pump and Compressor Requirements
  - Subchapter 5, Covered Sources
  - Subchapter 6, Fees for Covered Sources, Noncovered Sources, and Agricultural Burning
    - §11-60.1-111 Definitions
    - §11-60.1-112 General Fee Provisions for Covered Sources
    - §11-60.1-113 Application Fees for Covered Sources
    - §11-60.1-114 Annual Fees for Covered Sources
    - §11-60.1-115 Basis of Annual Fees for Covered Sources

2.2 40 Code of Federal (CFR), Part 60 – NSPS, Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 is not applicable to tanks at this facility because no tanks have been reconstructed or modified between 1978 and 1984.

2.3 Tank No. 13 will be subject to 40 CFR Part 60, New Source Performance Standards, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 because this tank is being modified to store naphtha.

2.4 Because the tanks will store gasoline as worst-case scenario, Tank Nos. 3, 9, 10, 13, 15, and 17 are subject to 40 CFR Part 63, Subpart BBBBBB – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities. Option 2 from Table 1 to Subpart BBBBBB applies to the tanks because tank capacities are greater than 151 $m^3$ (about 40,000 gallons). Either Option 2(b) or 2(d) from Subpart BBBBBB will apply because the tanks are equipped with internal floating roofs. Pursuant to 40 CFR §63.11087(f), gasoline storage Tank No. 13 will be in compliance with Subpart BBBBBB because this tank is subject to 40 CFR Part 60, Subpart Kb. The following table shows permitted tanks, dates the tanks were installed and modified, tank capacities, and the applicable regulations.

| Tank No. | Installation and Modification Dates | Capacity (barrels) | Applicable Subparts |
|---|---|---|---|
| 3 | 1956 | 13,082 | BBBBBB Part 63 |
| 9 | 1938 | 451 | BBBBBB Part 63 |
| 10 | 1947 | 1,678 | BBBBBB Part 63 |
| 13 | 1948, modification in 2012 | 19,638 | BBBBBB Part 63<br>Kb Part 60 |
| 15 | 1950 | 2,553 | BBBBBB Part 63 |
| 17 | 1960 | 4,657 | BBBBBB Part 63 |

2.5 The bottom loading load rack is subject to 40 CFR Part 63, Subpart BBBBBB. The facility is designated a bulk gasoline terminal because the gasoline throughput is greater than 20,000 gallons per day. The total combined motor gasoline and aviation gasoline throughput at the terminal is 985,522 barrels per year (113,402 gallons per day).

2.6 The bottom loading load rack is subject to 40 CFR, Part 60 – NSPS, Subpart XX, Standards of Performance for Bulk Gasoline Terminals because the bottom loading load rack was constructed after December 17, 1980.

2.5 The Consolidated Emissions Reporting Rule (CERR) is not applicable because emissions from the facility do not exceed reporting levels pursuant to 40 CFR 51.

2.6 A best available control technology analysis (BACT) analysis is required for new sources or modifications to existing sources that would result in a significant emissions increase as defined in HAR, Section 11-60.1. The modification to convert Tank No. 13 from diesel service to gasoline service does not cause and increase emissions that exceed significant emission thresholds. As such, BACT is not applicable. See table below.

| **Pollutant** | **Potential Emissions (TPY)** | | **Emissions Increase (TPY)** | **Significant Emission Level (TPY)** |
|---|---|---|---|---|
| | **Tank 13 Constructed as a Vertical Fixed Roof Tank Storing Fuel Oil No. 6** | **Tank No. 13 Constructed with Internal Floating Roof Storing Gasoline** | | |
| VOC | 0.002 | 3.6 | 3.6 | 40 |

2.7 The purpose of Compliance Assurance Monitoring (CAM) is to provide reasonable assurance that compliance is being achieved with large emissions units that rely on air pollution control device equipment to meet an emissions limit or standard. Pursuant to 40 CFR, Part 64, for CAM to be applicable, the emissions unit must: (1) be located at a major source; (2) be subject to an emissions limit or standard; (3) use a control device to achieve compliance; (4) have potential pre-control emissions that are greater than the major source level; and (5) not otherwise be exempt from CAM. Although the load rack relies on a vapor combustion system to achieve compliance with the federal VOC standard required by 40 CFR, Subpart XX and has potential pre-control emissions greater than the major source level for VOCs, CAM is not applicable to the load rack because the terminal is not a major source.

2.8 Prevention of significant deterioration (PSD) does not apply because emissions from the terminal are less than major source thresholds.

2.9 The facility is a synthetic minor source because the throughput limitation of 988,522 barrels per year (41,391,924 gallons per year) restricts emissions to a level that is the below major source thresholds. Maximum capacity of the terminal is 3,600 gallons per minute (1,892,160,000 gallons per year) based on the capacity of the vapor combustion system.

2.10 The facility is subject to the greenhouse gas (GHG) reporting requirements specified in 40 CFR Part 98 because total GHG emissions on a $CO_2$ equivalent ($CO_2e$) basis is greater than 25,000 metric tons per year. Paragraph 5.4 of the permit application review provides GHG emission estimates for the vapor combustion system servicing the bottom loading load rack. Total GHG emissions on a $CO_2e$ basis using the global warming potential (GWP) of the GHG are shown in the table below.

| GHG | GWP | GHG Mass-Based Emissions (Short TPY) | $CO_2e$ Based Emissions | |
|---|---|---|---|---|
| | | | Short TPY | Metric TPY |
| carbon dioxide ($CO_2$) | 1 | 32,766 | 32,766 | 29,725 |
| Methane ($CH_4$) | 21 | 1 | 21 | 19 |
| | | Total $CO_2$ Based Emissions→ | 32,787 | 29,744 |

## 3. Insignificant Activities

3.1 The following is a list of insignificant activities at the terminal. Tanks listed in (a) through (h) and emissions from sources in (o) through (r) are exempt in accordance with HAR §11-60.1-82(f)(7). Tanks listed in (i) through (n) are exempt pursuant to HAR §11-60.1-82(f)(1).

a. 11,889 barrel vertical fixed cone roof Tank No. 1 storing diesel;
b. 9,630 barrel vertical fixed cone roof Tank No. 2 storing diesel;
c. 3,776 barrel vertical fixed cone roof Tank No. 6 storing jet fuel;
d. 6,526 barrel vertical fixed cone roof Tank No. 7 storing diesel;
e. 1,586 barrel vertical fixed cone roof Tank No. 8 storing jet fuel;
f. 4,909 barrel vertical fixed cone roof Tank No. 11 storing jet fuel;
g. 25,530 barrel vertical fixed cone roof Tank No. 12 storing fuel oil No. 6;
h. 11,533 barrel vertical fixed cone roof Tank No. 16 storing diesel;
i. 543 barrel vertical fixed cone roof Tank No. 18 out of service;
j. 500 gallon transmix tank;
k. 188 barrel horizontal fixed roof additive Tank No. 24;
l. 250 gallon propane tank;
m. 1,000 gallon prover tank;
n. 150 gallon prover tank;
o. AFL oil water separator;
p. 9,600 gallon concrete sump;
q. Top loading fuel oil tank truck loading rack;
r. Diesel and jet fuel filter draining; and
s. 500 gallon red dye tote.

## 4. Alternate Operating Scenarios

4.1 No alternate operating scenarios were proposed by the applicant.

## 5. Project Emissions

5.1 Potential emissions from the bottom loading load rack with vapor combustion system were based on the following:

a. Maximum permitted throughput of 985,522 bbls/yr (41,391,924 gal/yr);
b. Loading gasoline into tank trucks as worst-case scenario;
c. Control of VOCs with vapor combustion system operating in accordance with the federal requirement not to exceed more than 35 mg of total organic compound per liter of gasoline loaded;
d. Emission factors for $NO_X$ and CO of 4 mg/l and 10 mg/l, respectively;
e. Emission factors for PM and $SO_2$ for commercial boilers were taken from AP-42 (10/96), Section 1.5, Liquefied Petroleum Gas Combustion because there are no emission factors for the combustion of gasoline or diesel vapors from loading tank trucks (manufacturer indicated that primary pollutants from gasoline vapor combustion are CO and $NO_X$);
f. The AP-42 emission factor for $SO_2$ is (0.1)(propane sulfur content)

g. The AP-42 emission factor for PM is 0.4 lb/1,000 gallon propane;
h. Per manufacturer's information a 53,000,000 Btu/hr heat rate input vapor combustion system capacity was used to determine PM and $SO_2$ emissions. The capacity was based on maximum vapor flow rate to combustor of 481 cfm and a 1,389 Btu/ft$^3$ heating value for gasoline vapor at saturation, and maximum truck loading to the loading rack of 4,800 gpm instead of 3,600 gpm;
i. A 90,500 Btu/gal heating value for propane based on AP-42 (10/96), Section 1.5 information to determine PM and $SO_2$ emissions;
j. Information from the gas company that maximum sulfur content of propane is 185 ppm (see permit file No. 0351-01, also 1ppm = 1g/1,000kg);
k. Pursuant to AP-42(9/85), Appendix A, there are 15.432 grains per gram;
l. Information from the gas company that indicates the gas specific gravity of propane is 1.54;
m. The density of air at standard temperature and pressure is 0.075 lb/ft$^3$, therefore (1.54 – sg)(0.075 lb/ft$^3$) = (0.115 lb/ft$^3$)(kg/2.2 lb)(100/100) = 5.23 kg/100 ft$^3$
n. Maximum truck loading design capacity for the vapor combustion system of 3,600 gal/min;
o. Vapor mass fractions of pollutants for gasoline were multiplied by the total VOC emissions to determine HAP emissions; and
p. Potential emissions are summarized as follows:

| **Pollutant** | **Vapor Mass Fraction** | **Emissions** | | |
|---|---|---|---|---|
| | | **lb/hr** | **g/s** | **TPY** |
| VOC | ---------- | ---------- | ---------- | 6.0[a] |
| $NO_X$ | ---------- | 7.2[b] | 0.909 | 0.7[c] |
| CO | ---------- | 18.0[d] | 2.27 | 1.7[e] |
| $SO_2$ | ---------- | 0.9[f,g] | 0.114 | 3.9 |
| PM | ---------- | 0.2[h] | 0.029 | 1.0 |
| PM-10 | ---------- | ---------- | ---------- | 0.9 |
| PM-2.5 | ---------- | ---------- | ---------- | 0.7 |
| Benzene | 0.0021 | ---------- | ---------- | 0.013 |
| Ethylbenzene | 0.0003 | ---------- | ---------- | 0.002 |
| Hexane (n) | 0.0073 | ---------- | ---------- | 0.044 |
| Toluene | 0.0063 | ---------- | ---------- | 0.038 |
| Xylene (m) | 0.0010 | ---------- | ---------- | 0.006 |
| Xylene (o) | 0.0004 | ---------- | ---------- | 0.002 |
| Xylene (p) | 0.0004 | ---------- | ---------- | 0.002 |
| | | | Total HAPs---> | 0.107 |

a: (35 mg/liter)(41,391,924 gal/yr)(liter/2.64 x $10^{-1}$ gal)($10^{-3}$ g/mg)(kg/1,000g)(2.2 lb/kg)(ton/2,000 lb) = 6.036 TPY VOC
b: (3,600 gal/min)(4 mg/liter)(liter/2.64 x $10^{-1}$ gal)($10^{-3}$ g/mg)(kg/1,000g)(2.2 lb/kg)(60 min/hr) = 7.2 lb/hr $NO_X$
c: (4 mg/liter)(41,391,924 gal/yr)(liter/2.64 x $10^{-1}$ gal)($10^{-3}$ g/mg)(kg/1,000g)(2.2 lb/kg)(ton/2,000 lb) = 0.690 TPY $NO_X$
d: (3,600 gal/min)(10 mg/liter)(liter/2.64 x $10^{-1}$ gal)($10^{-3}$ g/mg)(kg/1,000g)(2.2 lb/kg)(60 min/hr) = 18 lb/hr CO
e: (10 mg/liter)(41,391,924 gal/yr)(liter/2.64 x $10^{-1}$ gal)($10^{-3}$ g/mg)(kg/1,000g)(2.2 lb/kg)(ton/2,000 lb) = 1.725 TPY CO
f: 185 g S/1,000 kg)(15.432 grains/g)(5.239 kg/100 ft$^3$) = 14.96 grains/100 ft$^3$; therefore emission factor is (0.1)(14.96) = 1.496 lb/1,000 gallons propane
g: (53,000,000 Btu/hr)(gal/90,500 Btu)(1.496 lb/1,000 gal) = 0.88 lb/hr $SO_2$
h: (53,000,000 Btu/hr)(gal/90,500 Btu)(0.4 lb/1,000 gal) = 0.23 lb/hr PM
i: Based on AP-42(1/95), Appendix B, Table B.2.2 that indicated 87% of cumulative particulate is PM-10.
j: Based on AP-42(1/95), Appendix B, Table B.2.2 that indicated 70% of cumulative particulate is PM-2.5.

5.2 Internal floating roof tank emissions were determined with EPA's Tanks 4.0.9d program. Emissions were based on a total combined tank throughput of 41,118,702 gallons per year and loading gasoline. The loading rack is limited to loading 41,391,924 gallons per year gasoline as worst-case scenario. Vapor mass fractions of pollutants from data for gasoline were multiplied by the total VOC emission to determine HAP emissions. Potential VOC/HAP emissions are summarized as follows:

| Internal Floating Roof Tank Emissions | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Vapor Mass Fraction** | **Emission (TPY)** | | | | | | **Total Emissions (TPY)** |
| | | **Tank 3** | **Tank 9** | **Tank 10** | **Tank 13** | **Tank 15** | **Tank 17** | |
| VOC | ---------- | 3.50 | 1.28 | 1.25 | 3.61 | 2.97 | 3.19 | 15.8 |
| Benzene | 0.0036 | | | | | | | 0.057 |
| Ethyl benzene | 0.0004 | | | | | | | 0.006 |
| Hexane | 0.0069 | | | | | | | 0.109 |
| Toluene | 0.0061 | | | | | | | 0.096 |
| Xylenes | 0.0019 | | | | | | | 0.030 |
| | | | | | | | Total HAPs→ | 0.298 |

5.3 Emissions from equipment leaks were determined based on New Equipment Leak Emission Factors for Petroleum Refineries, Gasoline Marketing, and Oil & Gas Production, February 1995 [EPA-453/R-95-017], Table 2.3. Emission factors were selected from the light liquid and gas group for fittings (connectors and flanges), pumps, and valves. The applicant reported 3,824 fittings, 99 other components, 20 pumps in light liquid service, and 997 valves. Vapor weight fractions of compounds from motor gasoline were multiplied by the total VOC emissions to determine HAP emissions. Emission estimates are as follows:

| Equipment Leak Emissions | | | | | | |
|---|---|---|---|---|---|---|
| **Pollutant** | **Vapor Mass Fraction** | **Emission (TPY)** | | | | **Total Emissions** |
| | | **[a]Fittings** | **[b]Other** | **[c]Pumps** | **[d]Valves** | |
| VOC | ------ | 0.295 | 0.124 | 0.049 | 0.413 | 0.9 |
| Benzene | 0.0036 | | | | | 0.0032 |
| Ethyl benzene | 0.0004 | | | | | 0.0004 |
| Hexane | 0.0069 | | | | | 0.0062 |
| Toluene | 0.0061 | | | | | 0.0055 |
| Xylenes | 0.0019 | | | | | 0.0017 |
| | | | | | Total HAPs---------→ | 0.017 |

a: (3,824 fittings)(8.0E-06 kg/hr – fitting)(2.2 lb/kg)(8,760 hr/yr)(ton/2,000 lb) = 0.295 TPY VOC
b: (99 other components)(1.30E-04 kg/hr – component)(2.2 lb/kg)(8,760 hr/yr)(ton/2,000 lb) = 0.124 TPY VOC
c: (20 pumps)(5.4E-04 kg/hr – valve)(2.2 lb/kg)(8,760 hr/yr)(ton/2,000 lb) = 0.049 TPY VOC
d: (997 connectors)(4.3E-05 kg/hr – connector)(2.2 lb/kg)(8,760 hr/yr)(ton/2,000 lb) = 0.413 TPY VOC

5.4 The table below shows GHG emissions for continuous operation of the vapor combustion system. A maximum propane consumption of 5,130,166 gallon per year was assumed to determine the GHG emissions. The fuel consumption was based on a maximum 53,000,000 Btu/hr capacity for the vapor combustion system and a heating value for propane of 90,500 Btu/gallon. The GHG emissions were estimated with the Environmental Protection Agency's (EPA's) applicability tool at the following website which determines emissions in metric tons per year http://www.epa.gov/climatechange/emissions/GHG-calculator/index.html.

| Greenhouse Gas Emissions | | |
|---|---|---|
| GHG | Metric (TPY) | Short (TPY) |
| $CO_2$ | 29,725 | 32,766 |
| $CH_4$ | 1 | 1 |

5.5 Worst-case yearly emissions of VOCs, HAPs, and GHGs from permitted sources are as follows:

| **Facility Emissions** | | | | |
|---|---|---|---|---|
| **Pollutant** | **Emissions (TPY)** | | | **Total Emissions (TPY)** |
| | **Bottom Loading Load Rack** | **Internal Floating Roof Tanks** | **Equipment Leaks** | |
| VOCs | 6.0 | 15.8 | 0.9 | 22.7 |
| $NO_x$ | 0.7 | --------- | -------- | 0.7 |
| CO | 1.7 | --------- | -------- | 1.7 |
| HAPS | 0.107 | 0.298 | 0.017 | 0.4 |
| GHGs | 32,766 | ---------- | --------- | 32,767 |

## 6. Air Pollution Controls

6.1 Emissions from the bottom loading load rack are controlled by a model no. ZCT-2-8-35-X -2/8-X-X John Zink vapor combustion system. Maximum specified tank truck loading rate for the vapor combustion system is 3,600 gallons per minute. Minimum specified loading rate for the vapor combustion system is 500 gallons per minute.

6.2 Tank Nos. 3, 9, 10, 13, 15, and 17 require internal floating roofs and tank seal systems for controlling VOC and HAP emissions.

## 7. Air Quality Assessment

7.1 No changes to the permit are proposed that increase emissions from the vapor combustion system. Therefore, an air modeling assessment for the vapor combustion system is not required.

## 8. Significant Permit Conditions

8.1 The total combined throughput of the bottom loading load rack shall not exceed 985,522 barrels of motor gasoline, naphtha, and aviation gasoline per any rolling twelve-month (12- month) period.

Reason for 8.1: The limit was proposed by the applicant for operating the terminal. Potential emissions from the load rack and the air modeling assessment were based on the maximum proposed throughput for the loading rack.

8.2 The total combined product throughput of the bottom loading load rack shall not exceed 3,600 gallons per minute.

Reason for 8.2: The limit is based on the capacity specified for the vapor combustion system.

8.3 Specify 40 CFR Part 60, Subpart XX requirements for the terminal which include:

a. A 35 mg TOC limit per liter of gasoline loaded into cargo tanks at the load rack;
b. Annual vapor tightness testing of truck cargo tanks;
c. Source testing to determine compliance with the TOC emissions limit for loading cargo tanks at the load rack; and
d. Requirement to inspect and repair leaks measured at 10,000 ppm (as methane) or greater prior to source testing.

Reason for 8.3: Incorporate pursuant to Paragraph 2.6 of this permit application review.

8.4 Specify 40 CFR Part 63, Subpart BBBBBB requirements for the terminal which include:

a. Leak inspection and repair of equipment in gasoline service;
b. Requirement to construct, operate, and inspect internal floating roof tanks in accordance with the applicable requirements from either 40 CFR Part 60, Subpart Kb, or 40 CFR Part 63, Subpart WW.
c. Use submerged filling at the load rack with a submerged fill pipe that is no more than six (6) inches from the bottom of the cargo tank.

Reason for 8.5: Incorporate pursuant to Paragraphs 2.4 and 2.5 of this permit application review.

8.5 Tanks greater than 40,000 gallons in capacity storing VOL with a true vapor pressure equal to or greater than 1.5 psia (e.g., transmix, denatured ethanol, naphtha, aviation gasoline, motor gasoline, etc.) shall be either pressurized to prevent vapor or gas loss to the atmosphere or designed and equipped with one of the following vapor loss control devices:

a. A floating roof as specified in HAR §11-60.1-39 (a)(1);
b. A vapor recovery system as specified in HAR §11-60.1-39 (a)(2); or
c. Other equipment or means of equal efficiency for purposes of air pollution control as may be approved by the Department of Health.

Reason for 8.5: The condition was incorporated to ensure tanks greater than 40,000 gallons in capacity are equipped with adequate controls to prevent vapor losses to the atmosphere.

## 9. Conclusions and Recommendation

9.1 Actual emissions from the facility should be less than those estimated. Actual product throughput at the terminal is not anticipated to reach the maximum throughput limits specified for products loaded at the terminal. The terminal is equipped with a vapor combustion system to control VOC emissions from tank truck loading operations. The internal floating roofs and tank seals systems for permitted tanks will also control VOC emissions at the terminal. Recommend issuance of the permit subject to incorporation of the significant permit conditions, the thirty-day (30-day) public comment period, and forty five-day (45-day) review by the Environmental Protection Agency.

Mike Madsen 2-15-2012