

**PERMIT APPLICATION REVIEW
COVERED SOURCE PERMIT NO. 0082-01-C
Application for Renewal No. 0082-05**

Company: Chevron Products Company (Chevron)

Mailing Address: 933 North Nimitz Highway
Honolulu, Hawaii 96817

Facility: Honolulu Transportation Terminal

Location: 933 North Nimitz Highway, Honolulu, Oahu

SIC Code: 5171 (Petroleum Bulk Stations and Terminals)

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BACKGROUND

Chevron has submitted an application to renew its Covered Source Permit no. 0082-01-C that was issued on October 20, 2008 and modified on November 18, 2010. No changes have been made in the design or operation of the source.

The Honolulu Transportation Terminal (HTT) distributes three (3) grades of motor gasoline and two (2) grades of diesel fuel from its load rack. Product is supplied to the transportation terminal via pipeline from the Honolulu Marine Terminal (HMT). The bottom loading load rack for the transportation terminal is equipped with a vapor recovery unit (VRU) to control volatile organic compounds (VOCs). There are no permitted tanks at HTT. Tanks that supply product for the transportation terminal are located at HMT. Properties for HTT and HMT are not contiguous or adjacent; therefore, the two (2) terminals do not need to be permitted as one (1) stationary source. The maximum load rack throughput (calculated based on the loading of two (2) 9,000 gallon trucks every twenty (20) minutes all year) shall not exceed 11,297,619 barrels (474,500,000 gallons) per year.

This facility is designated a gasoline distribution bulk terminal because the gasoline throughput, based on the permit limit (1,300,000 gallons per day), is greater than 20,000 gallons per day. Option 2 from Table 2 of 40 Code of Federal Regulations (CFR) Part 63 Subpart BBBBBB, applies to the load rack because the actual average daily gasoline throughput is less than 250,000 gallons based on the monitoring reports submitted.

The following changes are made to the current permit:

1. Removal of Attachment IIC from the permit in its entirety that applied to activities prior to January 10, 2011.

The load rack and associated appurtenances shall operate in accordance with the conditions in Attachment IIB after January 10, 2011.

2. Addition of the requirement of excess emissions reporting of the load rack to Attachment IIB, Section E: Notification and Reporting Requirements.

In the permit renewal application, Chevron proposes to remove Attachment IIB, Special Condition no. E.5 from the current permit for excess emissions reporting of the load rack. This proposal is based on the understanding that "Under 40 CFR §63.11095, excess emissions for the load rack (aside from those for equipment leaks) are only defined for terminals with gasoline throughputs of at least 250,000 gal/day, which are subject to an emission limit and truck tightness requirements of Subpart BBBBBB". However, it's found that this condition doesn't exist in the current permit that was modified on 11/18/2010 but was contained in the expired permit that was issued on 10/20/2008.

Upon review of 40 CFR §63.11095, Clean Air Branch determines that §63.11095(b)(1) and §63.11095(b)(2) are applicable to all bulk terminals that are subject to 40 CFR Part 63 Subpart BBBBBB with gasoline throughputs of less than or at least 250,000 gal/day; therefore, the requirement of reporting excess emissions of the load rack shall be included in the renewed permit. The following information shall be reported semi-annually:

- a. Each instance of a non-vapor-tight gasoline tank truck loading at the facility in which there was failure to take steps to assure that such tank truck would not be reloaded at the facility before vapor tightness documentation for that tank truck was obtained.
 - b. Each reloading of a non-vapor-tight tank truck before vapor tightness documentation for that tank truck is obtained in accordance with 40 CFR §63.11094(b).
3. Removal of the two (2) 250 kW emergency diesel engine generators from Attachment II – INSIG of the permit.
 4. Addition of three (3) 120 kW portable generators to Attachment II – INSIG of the permit.

The generators service HTT and HMT when there is a power outage.

5. Addition of a 350 gallon Red Dye injection skid tank and a small 500 g tote for Red Dye injection to Attachment II – INSIG of the permit.

Since the Red Eye is nonvolatile (the Material Safety Data Sheet lists a vapor pressure of 5.1 mm Hg = 0.099 psia at 68°F) and the injection skid tank and tote sizes are sufficiently small, they are considered insignificant activities as identified in HAR §11-60.1-82(f)(1).

EQUIPMENT DESCRIPTION

1. Bottom loading load rack with two (2) loading lanes and nine (9) product load arms; and
2. John Zink vapor collection system with 4,800 gallon per minute carbon absorption VRU, model no. AA-825-8-8, serial no. GV-S73136.

AIR POLLUTION CONTROLS

Emissions from the load rack are controlled by the VRU. The unit consists of two (2) identical activated carbon adsorbers that recover hydrocarbon vapors displaced from tank truck loading operations. The carbon adsorbers alternate in operation every 15 minutes, which allows for maintenance, repairs, and regeneration without interrupting the operation of the load rack. Vapors from loading tank trucks are recovered, condensed, and pumped back to the product supply tank.

The manufacturer guarantees that the VOC emissions from the VRU will not exceed 10 mg/l of product loaded and the VRU does not have any other emissions.

APPLICABLE REQUIREMENTS

Hawaii Administrative Rules (HAR)

Title 11 Chapter 59, Ambient Air Quality Standards

Title 11 Chapter 60.1, Air Pollution Control

Subchapter 1, General Requirements

Subchapter 2, General Prohibitions

11-60.1-31, Applicability

11-60.1-39, 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

11-60.1-114, Basis of Annual Fees for Covered Sources

Subchapter 8, Standards of Performance for Stationary Sources

11-60.1-161, New Source Performance Standards

Subchapter 9, Hazardous Air Pollutant Sources

Standard of Performance for New Stationary Sources (NSPS), 40 CFR Part 60

Subpart XX, *Standards of Performance for Bulk Gasoline Terminal* is applicable to the bottom loading load rack because the load rack was constructed after December 17, 1980.

National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61

This terminal is not subject to NESHAP as there are no standards in 40 CFR Part 61 applicable to this source.

National Emission Standards for Hazardous Air Pollutants for Source Categories (Maximum Achievable Control Technology (MACT)), 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* is applicable to the facility because it is an area source bulk gasoline terminal emitting hazardous air pollutants (HAPs).

Prevention of Significant Deterioration (PSD), 40 CFR 52.21

This terminal is not subject to PSD requirements because it is not a major stationary source as defined in 40 CFR 52.21 and HAR Title 11, Chapter 60.1, Subchapter 7.

Compliance Assurance Monitoring (CAM), 40 CFR 64

This terminal is not subject to CAM since it is not a major source. The purpose of CAM is to provide a 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 100% of the major source level; and (5) not otherwise be exempt from CAM.

Air Emissions Reporting Requirements (AERR), 40 CFR Part 51, Subpart A

AERR is not applicable because potential emissions from the terminal do not exceed the AERR triggering levels (see table below).

Pollutant	Emissions (TPY) ¹ [8,760 hr/yr]	AERR Triggering Levels (TPY)	
		1 year cycle (type A sources)	3 year cycle (type B sources)
VOC	35.77	250	100
HAPs	0.92	-	-

¹ See Project Emissions section.

Department of Health (DOH) In-house Annual Emissions Reporting

The Clean Air Branch requests annual emissions reporting from those facilities that have facility-wide emissions exceeding in-house reporting levels and for all covered sources. This terminal is subject to annual emissions reporting requirements as a covered source.

Best Available Control Technology (BACT)

A BACT analysis is required for new sources or modifications to sources that have the potential to emit or increase emissions above significant levels considering any limitations as defined in HAR, Section 11-60.1-1. This terminal is not subject to a BACT analysis because it is an existing source with no proposed modifications that result in an increase in emissions from the facility.

Synthetic Minor Source

A synthetic minor source is a facility that is potentially major as defined in HAR 11-60.1-1, but is made non-major through federally enforceable permit conditions. This terminal is a synthetic minor source because the throughput limitation of 11,297,619 barrels (474,500,000 gallons) per year ensures that emissions from the facility are below major source thresholds (see Project Emissions section).

A synthetic minor 80% source (SM-80 source) is a synthetic minor source that emits or has the potential to emit a criteria pollutant or HAP at or above 80% of the major source threshold for that pollutant. This facility is not an SM-80 source based on the facility-wide VOC and HAP emissions with the annual throughput limit (see Project Emissions section).

INSIGNIFICANT ACTIVITIES

The following are considered insignificant activities in accordance with HAR §11-60.1-82(f)(1) or §11-60.1-82(f)(7).

Activities	HAR Insignificant Activity Criteria
Temporary 6,000 gallon aviation gasoline tote tanks	§11-60.1-82(f)(1)
A diesel fuel dispenser for filling motor vehicle fuel tanks at the load rack	§11-60.1-82(f)(7)
A portable ethanol proofer tank that collects ethanol when calibrating meters for blending ethanol with gasoline at the load rack	§11-60.1-82(f)(7)
A 14,000 gallon underground process tank for runoff and other fuel waste	§11-60.1-82(f)(1)
Two (2) 8,000 gallon gasoline additive tanks	§11-60.1-82(f)(1)
Three (3) 120 kW portable emergency generators	§11-60.1-82(f)(5)
A 350 gallon Red Dye injection skid tank and a small 500 g tote for Red Dye injection	§11-60.1-82(f)(1)

ALTERNATIVE OPERATING SCENERIOS

None proposed.

PROJECT EMISSIONS

Bottom Loading Load Rack Emissions

Potential emissions from the bottom loading load rack with VRU control are estimated based on the following:

1. Maximum permitted total combined throughput of 474,500,000 gal/yr;
2. Loading of gasoline into tank trucks as worst-case scenario;
3. Fugitive VOC emission factor of 8 mg per liter of gasoline loaded for tank truck loading (U.S. EPA's "Protocol for Equipment Leak Emission Estimates", 11/95);
4. Control of VOCs with the VRU operating in accordance with the manufacturer's guaranteed maximum emission rate of 10 mg of VOC per liter of gasoline loaded;

Actual VOC emission rates from annual source performance testing in the past years are: 0.96 mg/l (2006), 0.182 mg/l (2008), 0.07 mg/l (2011), and 0.04 mg/l (2014).

- Vapor weight fractions for components of gasoline are multiplied by the total VOC emissions to determine HAP emissions.

Maximum monthly HAP vapor weight fractions are from an EPA TANKS 4.0 output file and the hottest month – August is used for a worst case scenario.

Emissions are summarized in the table below.

Bottom Loading Load Rack Emissions (Gasoline)	
Pollutant	Emissions (TPY)¹ [474,500,000 gal/yr]
VOC	35.66
HAPs	0.92

¹ See attached emission calculation spreadsheets for details.

Equipment Leak Emissions

Fugitive VOCs from piping components (i.e., valves, fittings, pump seals, etc.) are determined based on the emission factors from U.S. EPA's "Protocol for Equipment Leak Emission Estimates" (11/95). Vapor weight fractions for compounds of gasoline are multiplied by the total VOC emissions to determine HAP emissions.

Emissions are summarized in the table below.

Equipment Leak Emissions	
Pollutant	Emissions (TPY)¹ [8,760 hr/yr]
VOC	0.11
HAPs	0.0029

¹ See attached emission calculation spreadsheets for details.

Facility-Wide Emissions

Total VOC and HAP emissions from HTT are as follows:

Facility-Wide Emissions (TPY) [474,500,000 gal/yr]			
Pollutant	Bottom Loading Load Rack	Equipment Leaks	Total
VOC	35.66	0.11	35.77
HAPs	0.92	0.0029	0.92

AMBIENT AIR QUALITY ASSESSMENT

An ambient air quality assessment (AAQA) is generally required for new sources or modified sources with emission increases. An AAQA is not conducted for this renewal because no changes or modifications are proposed that increase emissions from the VRU.

SIGNIFICANT PERMIT CONDITIONS

1. Incorporate provisions of 40 CFR Part 63 Subpart BBBBBB for the bottom loading load rack and equipment in gasoline service.

Reason: The facility is an area source bulk gasoline terminal that is subject to 40 CFR Part 63 Subpart BBBBBB.

2. Incorporate provisions of 40 CFR Part 60 Subpart XX for the bottom loading load rack.

Reason: The bottom loading load rack is subject to 40 CFR Part 60 Subpart XX.

CONCLUSION

Potential emissions from HTT are conservatively estimated for the worst-case scenario. Actual emissions from the facility should be lower. Based on the monitoring reports submitted, the bottom loading load rack has not exceeded 11,297,619 barrels (474,500,000 gallons) of all products per rolling twelve-month (12-month) period in the past years. According to the annual source performance test reports submitted, VOC emission rate of the VRU has been consistently lower than the manufacturer's guaranteed limit of 10 mg/l of product loaded.

Recommend issuance of the renewal for the covered source permit subject to the incorporation of the significant permit conditions, thirty (30) day public comment, and forty-five (45) day EPA review.

Jing Hu
April 18, 2016