

COVERED SOURCE PERMIT REVIEW - 0072-01-C
Permit Renewal
Application No. 0072-06
Equilon Enterprises, LLC - Hilo Terminal
Five (5) Internal Floating Roof Storage Tanks & Tank Truck Load Rack

Facility: Equilon Enterprises, LLC
Hilo Distribution Plant
661 Kalaniana'ole Avenue, Hilo, Hawaii

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Application Date: May 20, 2009

SICC: 5171 (Petroleum Bulk Stations and Terminals)

Background:

This is an application to renew Covered Source Permit (CSP) No. 0072-01-C which expires on May 22, 2010. Equilon Enterprises, LLC owns and operates a gasoline distribution facility in Hilo located at 661 Kalaniana'ole Avenue. The Hilo Distribution Plant has two fixed roof storage tanks, five internal floating roof petroleum storage tanks and one tank truck load rack.

Of the seven above ground storage tanks, two of the tanks, tank nos. 3 and 5, are exempt from permitting due to the low vapor pressure of the liquids being stored; tank no. 3 stores diesel fuel no. 2 and tank no. 5 stores contact water. The remaining tanks, tank nos. 1, 6, 7, and 8, store gasoline, tank no. 4 or 6 stores ethanol, and are subject to permitting. Internal floating roofs are installed on these tanks. The load rack has one-lane with three-arms. Each arm is capable of loading 350 gallons per minute, but only two of the arms can be operated simultaneously. To

remain under PSD and MACT triggers, the existing permit has a throughput limit of 62 million gallons of gasoline per rolling 12-months.

Equipment:

1. Petroleum storage tanks:
 - a. Tank No. 1 - 10,000 barrel internal floating roof tank;
 - b. Tank No. 4 – 5,500 barrel internal floating roof tank;
 - c. Tank No. 6 - 5,600 barrel internal floating roof tank;
 - d. Tank No. 7 - 12,700 barrel internal floating roof tank; and
 - e. Tank No. 8 - 25,000 barrel internal floating roof tank.

2. One (1) bottom loading petroleum tank truck loading rack with three product arms.

Air Pollution Controls:

Emissions from the storage tanks and tank truck load rack are controlled by the design characteristics of the tanks and load rack. The tanks have internal floating roofs with primary seals and the load rack is bottom loading.

Operational Limits:

The storage tanks do not have a throughput limit. The throughput limit for the loading rack is 62 million gallons per rolling 12-month period.

Applicable Requirements:

Hawaii Administrative Rules (HAR)

Chapter 11-59, Ambient Air Quality Standards

Chapter 11-60.1

Subchapter 1, General Requirements

Subchapter 2, General Prohibitions

11-60.1-31 Applicability

11-60.1-39 Storage of Volatile Organic Compounds

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

Non-Applicable Requirements:

BACT:

A Best Available Control Technology (BACT) analysis is required for new or modified emission units if the net increase in pollutant emissions exceeds significant levels as defined in HAR §11-60.1-1. Equilon is not adding any new emission units or modifying any of the existing emission units, therefore a BACT analysis is not applicable.

CAM:

The purpose of Compliance Assurance Monitoring (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 Code of Federal Regulations, 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. CAM is not applicable because the units do not use a control device to achieve compliance.

CERR (Consolidated Emission Reporting Rule):

40 CFR part 51, Subpart A – Emission Inventory Reporting Requirements, determines the annual emissions reporting frequency based on the actual emissions of each pollutant from any individual emission point within the facility that emits at or above the triggering levels. Since the sources at this facility are fugitive sources, CERR does not apply.

The Department does however require facilities to report their annual emissions if the facility-wide emissions exceed the Department's trigger levels. The Department's trigger level for VOCs is 25 tons per year. Since the facility has the potential to emit more than 25 tons per year VOC, they must report their annual emissions to the Department.

NESHAP/MACT:

40 CFR Part 63, Subpart R - National Emission Standards for Hazardous Air Pollutants for Gasoline Distribution Facilities - is not applicable to the facility because the facility is not a major source of HAPs.

NSPS:

40 CFR Part 60, New Source Performance Standards (NSPS) Subparts K, Ka, and Kb - Standards of Performance for Storage Vessels for Petroleum Liquids - are not applicable to the facility because the construction dates are before the subparts were promulgated. The addition of floating roofs to tank nos. 1, 4, 6, and 7 do not trigger a modification because the tanks were

capable of storing gasoline prior to the addition of the floating roofs. For the same reason, tank no. 8 did not trigger applicability when the product stored was switch from aviation fuel to gasoline in 1984.

40 CFR Part 60, New Source Performance Standards (NSPS) Subpart XX - Standards of Performance for Bulk Gasoline Terminals - is not applicable because of the construction date of the tank truck load rack. Although the initial construction date is not known, it is assumed that the load rack was in place when the storage tanks were built. The load rack was converted from a top-loading to bottom-loading in 1991. The conversion is not considered a modification because the cost of the conversion was less than half the cost of building a new loading rack.

PSD:

Prevention of Significant Deterioration is not applicable to any of the emission units. Since no changes or modifications were proposed to the existing units, a PSD review is not necessary.

Synthetic minor:

A synthetic minor is a facility that without limiting conditions, physical or operational, emits above the major source triggering levels as defined by HAR 11-60.1-1 for either criteria pollutant(s) or hazardous air pollutant(s). This facility is a major source and thus, is not a synthetic minor.

Calculations:

Emission factors for the tanks were taken from AP-42, section 7.1, revised 9/97. The throughput and tank turn over quantities used to calculate the emissions are based on the throughput of the tank truck load rack. The analysis assumed only one tank was in service and used the load rack throughput, 1,476,190 barrels, for each tank. This would be the maximum operating capacity of the tanks. It is not expected the facility will operate at this level as usually only one tank is removed from service at a time. As expected the largest tank, tank no. 8, had the highest emissions – 4.90 tons per year. Total HAPs from tank no. 8 was estimated at 0.12 tons per year.

Emission factors for the tank truck load rack are from AP-42 section 5.2, revised 1/95. The applicant has a self-imposed throughput limit of 1,476,190 barrels per year. With this throughput limit, the VOC emissions were estimated at 225.03 tons per year. Total HAPs were estimated at 5.20 tons per year.

Fugitive emissions from the load rack fittings and pumps were estimated using emission factors

from the EPA document - Protocol for Equipment Leak Emission Estimates. Fugitive emission estimates were 0.09 tons per year of VOC and 0.02 tons per year of HAPs. Total emissions for the facility are 245.73 tons per year VOC and 5.65 tons per year of HAPs.

Alternate Operating Scenarios:

The applicant did not list any alternate operating scenarios.

Insignificant Activities:

The applicant identified the following insignificant activities.

- one (1) 2.8 million barrel fixed roof tank, tank no. 3, storing diesel fuel no. 2;
- one (1) 2.4 million barrel fixed roof tank, tank no. 5, storing contact water;
- one (1) 143 barrel horizontal tank, tank no. 9A, storing slop;
- one (1) 13 barrel tote tank, tank no. 10, storing additive; and
- one (1) CPI oil water separator.

Air Quality Assessment:

The only emissions are fugitive VOCs from the petroleum storage tanks and the petroleum tank truck loading rack and any HAPs associated with these VOCs. An ambient air quality impact assessment is not required for the following reasons: 1) VOCs do not have an ambient air quality standard, and 2) the Department of Health air modeling guidance generally exempts an applicant from performing an ambient air quality impact assessment for fugitive sources (storage tanks, pipe leaks, etc.).

Conclusion/Recommendation:

Recommend issuing a permit renewal for Covered Source Permit (CSP) No. 0072-01-C, subject to a 30-day public comment period and 45-day EPA review period. There were no proposed modifications to the existing permit.

Reviewer: Darin Lum

Date: 2/2010