

COVERED SOURCE PERMIT REVIEW - 0307-02-C

Renewal Application No. 0307-04

Applicant: Aloha Petroleum Ltd.
Hilo Sales Terminal, Hilo, Hawaii

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Background:

Aloha Petroleum Ltd. owns a bulk liquid storage and transfer facility located in Hilo, Hawaii. CSP no. 0307-01-C was issued on August 9, 1996 and under that permit, 3 ASTs were built, 2 each -10,000 barrel internal floating roof tanks and 1 each 190 barrel horizontal tank. CSP No. 0307-02-C increased the throughput at the two internal floating roof tanks from 260,000 barrels to 410,000 barrels per rolling 12-month period and superseded CSP No. 0307-01-C in its entirety.

Permit NSP No. 0322-01-N permits the existing load rack and the nine remaining petroleum ASTs.

Under this renewal, a minor modification to increase the throughput is being proposed. Aloha is proposing to increase the throughput at the two internal floating roof storage tanks from 410,000 barrels per rolling 12-month period to 500,000 barrels.

Equipment:

2 ea - 10,000 barrel internal floating roof tanks, tank nos. HT-901 and 902.

Air Pollution Controls:

Emissions from the storage tanks are controlled by the design characteristics of the tanks; internal floating roofs with primary seals.

Operational Limits:

Although the storage tanks may store diesel fuel, the emissions for the storage tanks were calculated for gasoline. This allows some operational flexibility as the Reid vapor pressure for gasoline is higher than that of diesel fuel. The combined throughput limit for both tanks is 500,000 barrels per rolling 12-month period.

Applicable Requirements

Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1

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

11-60.1-115 Basis of Annual fees for Covered Sources

Subchapter 8, Standards of performance for Stationary Sources

11-60.1-161 New Source Performance Standards

NSPS (Standards of Performance for New Stationary Sources):

40 CFR Part 60 - New Source Performance Standard (NSPS)

Subpart A - General Provisions

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.

Non-Applicable Requirements:

BACT (Best Available Control Technology):

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. The net increase in emissions for the facility from the proposed modifications was estimated at 14 pounds per year VOC. As such the modification does not trigger a BACT review.

CAM (Compliance Assurance Monitoring):

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. The facility is not a major source and thus, CAM does not apply.

MACT (Maximum Achievable Control Technology):

MACT standards have not been established for the source category.

NESHAP (National Emission Standards for Hazardous Air Pollutants):

NESHAP standards have not been established for the source category.

NSR (New Source Review):

NSR is not applicable since the facility is located in an attainment area and PSD applicability has been reviewed.

PSD (Prevention of Significant Deterioration):

PSD is not applicable to this proposed modification because the proposed change is not significant as defined in 40 CFR 51.166 and the facility is not a major stationary source.

Synthetic minor:

A synthetic minor is a facility that without limiting conditions, physical or operational, emits above the major triggering levels as defined by HAR 11-60.1-1 for either criteria pollutant(s) or hazardous air pollutant(s). Although the facility has throughput limits, the emissions from withdrawal losses are small. As such, even without throughput limits, the facility would not be a major source and thus, it is not a synthetic minor.

Alternate Operating Scenarios:

The storage tanks may store a variety of petroleum products. The analysis assumed that gasoline would be stored. Since gasoline is the most volatile, storing any other petroleum product will have lower emissions of VOCs.

Insignificant Activities:

1 each 190 barrel horizontal storage tank

Project Emissions:

Emission factors for the tanks were taken from AP-42, section 7.1 - Organic Liquid Storage Tanks, revised 11/07 [sic] (section 7.1 of the AP-42 was revised in 2006, not in 2007). The revisions were not significant and emissions estimates for most scenarios will not be greatly affected.

The proposed increase in throughput from 410,000 barrels per year to 500,000 barrels per year will increase the number of tank turnovers. However, the emissions associated with turnovers, the withdrawal losses, are small compared to the rim seal and deck fitting losses. The emission increase for the proposed increase in throughput is 14 pounds per year VOC. Calculation of the estimated emissions are in the appendix.

Conclusion and Recommendation:

The total emissions increase from the proposed modification is relatively low, 14 pounds per year of VOC. The facility has been operating in compliance with the current operating permit and there is no reason to believe that the permittee will not continue to do so.

Recommendation is to renew the permit with the proposed increase in throughput limits.

Appendix

Emission Calculations