

**PERMIT APPLICATION REVIEW  
COVERED SOURCE PERMIT NO. 0564-01-C  
Application for Renewal No. 0564-04**

**Company:** Hakuyosha International, Inc.

**Mailing Address:** 730 Sheridan Street  
Honolulu, Hawaii 96814

**Facility:** Same as company name

**Location:** 730 Sheridan Street, Honolulu, Oahu 96814  
UTM Coordinates: 620,035 m East, 2,355,365 m North, Zone 4 (NAD 83)

**SIC Code:** 7216 (Dry Cleaning Plants, Except for Rugs)  
Equivalent NAICS Code 812320 (Dry Cleaning and Laundry Services)

**Responsible Official & Site Contact:** Carl Patton  
Manager  
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**Consultant:** James W. Morrow  
Environmental Management Consultant  
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**BACKGROUND**

Hakuyosha International has submitted an application to renew its covered source permit no. 0564-01-C that was issued on March 4, 2011. No modifications are proposed.

The facility consists of two (2) forty-pound (40-lb) capacity petroleum solvent washers and three (3) fifty-pound (50-lb) capacity petroleum solvent recovery dryers. Clothing is washed in petroleum solvent washers and most of the solvent is extracted after a wash cycle and stored for reuse. The filter cartridges attached to the washers trap and remove contaminants from the solvent before recycling back into the washers. The partially dried clothing is then transferred to the high efficiency recovery dryers which evaporate and reclaim the remaining solvent in the clothing. Two (2) of the three (3) dryers have fans and a connected duct system which during the final cool-down phase of the drying cycle exhaust air through a single stack on the roof. The third dryer is a backup unit.

The facility operates eight (8) hours a day, seven (7) days a week.

In addition to CSP 0564-01-C for the petroleum dry cleaning equipment, Hakuyosha International has the following air permits:

1. Noncovered source permit no. 0462-01-N for a 100 hp boiler; and
2. Noncovered general source permit no. 0094-NG for perchloroethylene dry cleaning operations.

**EQUIPMENT DESCRIPTION**

Unit	Model No.	Serial No.	Maximum Capacity (lbs)
Hoyt Petro-Miser Petroleum Solvent Recovery Dryer	PET-50	50-519-GE	50
Hoyt Petro-Miser Petroleum Solvent Recovery Dryer	PET-50	50-707-GE	50
Hoyt Petro-Miser Petroleum Solvent Recovery Dryer	PET-50R	50R-1074GE	50
J & T Petroleum Solvent Washer	40	1024	40
J & T Petroleum Solvent Washer	40	1023	40

**AIR POLLUTION CONTROLS**

Although each petroleum solvent recovery dryer is equipped with a refrigerated condenser to reclaim up to 95% of the residual solvent, it is conservatively assumed that all solvent input is eventually evaporated to the atmosphere.

**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 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

Subchapter 8, Standards of Performance for Stationary Sources

11-60.1-161, New Source Performance Standards

11-60.1-161 (1), Subpart A, General Provisions

11-60.1-161 (25), Subpart JJJ, Standards of Performance for Petroleum Dry Cleaners

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

Subpart JJJ, *Standards of Performance for Petroleum Dry Cleaners* applies to petroleum dry cleaning plants with a total manufacturer's rated dryer capacity equal to or greater than 84 lbs. The facility is subject to this standard because the three (3) 50-lb petroleum solvent recovery dryers have a total capacity of 150 lbs. and the facility commenced construction and modification after December 14, 1982.

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

The facility is not a major stationary source of hazardous air pollutants (HAPs) and is not subject to any NESHAPS requirements under 40 CFR Part 61.

National Emission Standards for Hazardous Air Pollutants for Source Categories (Maximum Achievable Control Technology (MACT)), 40 CFR Part 63

The facility is not a major stationary source of HAPs and the petroleum dry cleaning equipment is not subject to any NESHAPS requirements under 40 CFR Part 63.

Prevention of Significant Deterioration (PSD), 40 CFR 52.21

This source 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 source is not subject to CAM since the facility 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 facility do not exceed the AERR triggering levels (see table below).

Pollutant	Potential Emissions <sup>1,2</sup> (TPY)	AERR Triggering Levels (TPY)	
		1 year cycle (type A sources)	3 year cycle (type B sources)
CO	0.21	2500	1000
NO <sub>x</sub>	0.85	2500	100
SO <sub>2</sub>	3.02	2500	100
PM	0.085	-	-
PM <sub>10</sub>	0.046	250	100
PM <sub>2.5</sub>	0.035	250	100
VOC	45.26	250	100
Lead (Pb)	5.36E-05	5	5
HAPs	3.36E-03	-	-

<sup>1.</sup> Potential volatile organic compound (VOC) emissions from the petroleum dry cleaning operations are based on 8,760 hr/yr of operation. See Project Emissions section for detailed calculations.

<sup>2.</sup> Emissions of CO, NO<sub>x</sub>, SO<sub>2</sub>, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC (0.014 tpy), Lead, and HAPs are from the permit review for the 100 hp boiler, NSP 0462-01-N, based on the fuel consumption limit of 85,000 gal/yr.

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 facility is not subject to a BACT analysis because it is an existing source with no proposed modifications.

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 facility is not a synthetic minor source because potential emissions do not exceed major source thresholds when the equipment is operated at the maximum capacity for 8,760 hours per year.

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 facility is subject to annual emissions reporting requirements since it is a covered source and potential VOC emissions exceed the in-house reporting trigger level of twenty-five (25) tons per year (see table below).

<b>Pollutant</b>	<b>Potential Emissions<sup>1,2</sup> (TPY)</b>	<b>DOH Reporting Levels (TPY)</b>
CO	0.21	250
NO <sub>x</sub>	0.85	25
SO <sub>2</sub>	3.02	25
PM	0.085	25
PM <sub>10</sub>	0.046	25
PM <sub>2.5</sub>	0.035	-
VOC	45.26	25
Lead (Pb)	5.36E-05	-
HAPs	3.36E-03	5

<sup>1.</sup> Potential VOC emissions from the petroleum dry cleaning operations are based on 8,760 hr/yr of operation. See Project Emissions section for detailed calculations.

<sup>2.</sup> Emissions of CO, NO<sub>x</sub>, SO<sub>2</sub>, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC (0.014 tpy), Lead, and HAPs are from the permit review for the 100 hp boiler, NSP 0462-01-N, based on the fuel consumption limit of 85,000 gal/yr.

**INSIGNIFICANT ACTIVITIES**

Solvent Storage Tank

One (1) 1,000 gallon solvent storage tank is identified as an insignificant activity under HAR 11-60.1-82(f)(1).

**ALTERNATIVE OPERATING SCENERIOS**

None proposed.

**PROJECT EMISSIONS**

VOCs are emitted from the use of petroleum solvents. Emissions are based on the following information:

1. Chevron 325, the petroleum solvent, has a VOC content of 780 g/l (equivalent to 6.51 lb/gal).
2. The highest reported annual consumption of Chevron 325 over the last eight (8) years is 4,620 gallons.
3. Annual operating hours are:  
8 hr/day x 7 day/week x 52 week/yr = 2,912 hr/yr

- 4. Annual operating factor to determine maximum potential to emit is:  
 $8,760 \text{ hr/yr} \div 2,912 \text{ hr/yr} = 3.01$
- 5. Assume all VOC is lost to the atmosphere during dry cleaning operations.

Emissions are summarized in the table below.

Pollutant	Emissions (TPY) <sup>1</sup>	
	2,912 hr/yr	8,760 hr/yr
VOC	15.04	45.26

<sup>1</sup> See attached emission calculation spreadsheet.

No HAPs are indicated on the Material Safety Data Sheet (MSDS) of Chevron 325.

**AMBIENT AIR QUALITY ASSESSMENT**

No ambient air quality analysis is required for the following reasons:

- 1. The petroleum dry cleaning operations generate only fugitive emissions of VOC.
- 2. There is no ambient air quality standard for VOC.

**SIGNIFICANT PERMIT CONDITIONS**

Solvent purchase receipts, showing the supplier, solvent name, VOC content, date of delivery, and amount (gallons) of solvent delivered to the site shall be maintained. Solvent VOC content may be demonstrated by providing the MSDS for the solvent purchased and received.

Reason: For purposes of monitoring/annual emissions reporting.

This new significant permit condition is incorporated into the renewed permit. All other significant conditions remain the same as in the permit issued on March 4, 2011.

**CONCLUSION**

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

Jing Hu  
September 26, 2014