

**PERMIT APPLICATION REVIEW  
COVERED SOURCE PERMIT NO. 0823-01-C  
Initial Application No. 0823-01**

**Company:** Hakuyosha International, Inc.

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

**Facility:** Same as company name

**Location:** 210 Puuhale Road, Honolulu, Oahu 96819  
UTM Coordinates: 615,279 m East, 2,358,537 m North, Zone 4 (NAD 83)

**SIC Code:** 7216 (Dry Cleaning Plants, except for Rug)  
Equivalent NAICS Code 812320 (Dry Cleaning and Laundry Services, except Coin-Operated)

**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 is proposing to install and operate four (4) petroleum solvent dry cleaning machines at a Puuhale Road location in Honolulu.

The facility consists of two (2) ninety-five pound (95-lb) and two (2) sixty pound (60-lb) capacity dry cleaning machines. Sixty to ninety-five (60-95) batches of clothing are washed in a petroleum solvent and dried in a one-hour (1-hour) period. The petroleum solvent vapors are collected, condensed, cleaned and reused. The solvent is 99% volatile and its recovery efficiency is greater than 98%. Typical operations of the facility are eight (8) hours a day, seven (7) days a week.

In addition to CSP 0823-01-CT for the petroleum dry cleaning equipment, Hakuyosha International has the noncovered source permit no. 0435-01-N for one (1) 200-hp and two (2) 100-hp gas/oil fired boilers.

**EQUIPMENT DESCRIPTION**

Unit	Quantity	Model No.	Serial No.	Maximum Capacity (lb/load)
REALSTAR Dry Cleaning Machine	2	KM 503	-	60
REALSTAR Dry Cleaning Machine	2	KM 803	-	95

## AIR POLLUTION CONTROLS

Although the manufacturer claims that greater than 98% of the residual solvent is recovered, 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 eighty-four (84) lbs. The facility is subject to this standard because the four (4) petroleum solvent dry cleaning machines have a total capacity of 310 lbs and will be installed in 2015 (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	6.16	2500	1000
NO <sub>x</sub>	10.5	2500	100
SO <sub>2</sub>	3.77	2500	100
PM	1.05	-	-
PM <sub>10</sub>	0.57	250	100
PM <sub>2.5</sub>	0.56	250	100
VOC	41.75	250	100
Lead (Pb)	6.46E-04	5	5
HAPs	0.30	-	-

1. Emissions of CO, NO<sub>x</sub>, SO<sub>2</sub>, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC (0.403 TPY), Lead, and HAPs are from the permit review (no. 0435-04 & 0435-05) for one (1) 200-hp and two (2) 100-hp boilers, NSP 0435-01-N, based on the worst-case scenarios between SNG and fuel oil no. 2.

2. Potential VOC emissions from the petroleum dry cleaning equipment (41.35 TPY) are based on 8,760 hr/yr of operation. See Project Emissions section for details.

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.

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 VOC emissions from the proposed dry cleaning machines are fugitive in nature and the dry cleaning operation is regulated by 40 CFR Part 60, Subpart JJJ which is a post August 7, 1980 standard.

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.

**INSIGNIFICANT ACTIVITIES**

None proposed.

**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 ECOSOLV® Dry Cleaning Fluid, the petroleum solvent, has a relative density of 0.76 (relative to H<sub>2</sub>O density).
2. The historical solvent usage rate is 0.00481 gal/lb clothing.
3. Annual operating hours are:  
8 hr/day x 365 day/yr = 2,920 hr/yr
4. Annual operating factor to determine maximum potential to emit is:  
8,760 hr/yr ÷ 2,920 hr/yr = 3.0
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>	
	2,920 hr/yr	8,760 hr/yr
VOC	13.78	41.35

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

No HAPs are indicated on the Material Safety Data Sheet (MSDS) of Chevron ECOSOLV® Dry Cleaning Fluid.

**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**

1. Incorporate provisions of 40 CFR Part 60, Subpart JJJ for the petroleum solvent dry cleaning machines including the solvent leak inspection requirements and initial performance test requirements.

Reason: The petroleum solvent dry cleaning machines are subject to 40 CFR 60, Subpart JJJ.

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

Reason: For purposes of monitoring/annual emissions reporting.

## **CONCLUSION**

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

Jing Hu  
February 26, 2015