

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Head Incorporated
Attn: Dennis Head
201 North Center Street
South Elgin, Illinois 60177

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| <u>Application No.:</u> 99080112 | <u>I.D. No.:</u> 089080AAU |
| <u>Applicant's Designation:</u> D001 | <u>Date Received:</u> August 11, 1999 |
| <u>Subject:</u> Vibra Degreaser | |
| <u>Date Issued:</u> November 19, 1999 | |
| <u>Location:</u> 201 North Center Street, South Elgin | |

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a trichloroethylene in-line degreaser as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. These conditions effectively limit the potential emissions of air pollutants from the source to less than major source thresholds (i.e., to less than 10 tons per year of any single HAP). As a result, the source is excluded from the requirements to obtain a Clean Air Act Permit Program (CAAPP) permit.
- 2a. The trichloroethylene in-line vapor solvent cleaning machine(s) are subject to 40 CFR part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning. The Illinois EPA is administering this regulation in Illinois on behalf of the United States EPA under a delegation agreement. The United States EPA issued this final rule on December 2, 1994.
- b. The Permittee must be in compliance with 40 CFR Part 63, Subpart T - National Emissions Standards for Halogenated Solvent Cleaning on or before December 2, 1994 or immediately upon startup whichever is later.
- 3a. Solvent usage shall not exceed the following limits:

| <u>Solvent Usage</u> | | <u>Organic Material Emissions</u> | |
|----------------------|-------------------|-----------------------------------|-------------------|
| <u>(Lb/Month)</u> | <u>(Ton/Year)</u> | <u>(Lb/Month)</u> | <u>(Ton/Year)</u> |
| 2,500 | 9.9 | 2,500 | 9.9 |

These limits are based on maximum solvent usage (trichloroethylene), operating hours and determined by material balance.

- b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months.
- c. The Permittee shall use only trichloroethylene as solvent.
- 4a. For determination of compliance with the limits of this permit, solvent usage shall be determined by the following equation:

$$U = V - (W \times P)$$

Where:

- U = Solvent usage for compliance determinations (gallons).
- V = Virgin solvent^A added to the solvent cleaning machines (gallons), as determined by daily addition log sheets.
- W = Waste solvent^B removed from the solvent cleaning machines and sent off-site for reclamation or disposal, as determined by monthly manifests.
- P = Percent concentration of solvent in waste, as determined by analysis/testing^C.

^A For purposes of this permit, virgin solvent is defined as unused solvent.

^B For purposes of this permit, waste solvent is defined as used solvent.

^C The percent concentration of solvent in waste (P) shall be determined in accordance with USEPA Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW-846), Test Method 8260.

- b. Compliance with the monthly organic material emission limits shall be calculated using the solvent density as specified in the Material Safety Data Sheet, and the solvent usage (U) per month, as follows:

$$\begin{aligned} \text{Emissions} &= \text{Solvent Usage (U)} \times \text{Solvent Density} \\ (\text{lbs/month}) &= (\text{gallon/month}) \quad \times \quad (\text{lbs/gallon}) \end{aligned}$$

- 5. Each solvent cleaning machine must meet the following base design requirements, pursuant to 40 CFR, Part 63.463.
 - a. Each solvent cleaning machine must be equipped with an idling or downtime mode cover that completely covers the machine openings. The cover must be periodically inspected to ensure that it remains free of cracks, holes, and other defects. The cover must be closed at all times except during the cleaning, solvent removal, maintenance and monitoring of the degreasers.

- b. A freeboard ratio of 0.75 or greater must be maintained for each solvent cleaning machine.
 - c. Each solvent cleaning machine must have an automated parts handling system that handles parts from initial loading to removal of cleaned parts. If the Permittee wants to use manual hoist, the Permittee must demonstrate to the Illinois EPA that the hoist can never exceed 11 feet per minute.
 - d. Each solvent cleaning machine must be equipped with a liquid and vapor level control device(s) that shuts off the sump heat if the sump liquid level drops to the sump heater coils or the vapor level rises above the height of the primary condenser and such device(s) must be operational at all times.
 - e. Each solvent cleaning machine must be equipped with a primary condenser to provide continuous condensation or rising solvent vapors and to create a controlled vapor zone.
 - f. Each solvent cleaning machine with lip exhaust control must be controlled by a carbon adsorption unit.
6. The Permittee shall comply with the following work and operational practice, requirements and post in the work place a one page summary of work practices, pursuant to 40 CFR Part 63.463(d).
- a. Conduct maintenance as per manufacturer's recommendation to ensure that each solvent cleaning machine works properly. Any alternative maintenance practice must be approved by the USEPA.
 - b. Each solvent cleaning machine shall be covered to minimize air disturbances in the machine and the room at all times except during the cleaning, removal of solvent, maintenance and monitoring. If a cover cannot be used, air disturbances shall be controlled by Reduced Room Draft. Room draft shall not exceed 50 feet/minute.
 - c.
 - i. A speed of 3 feet/minute or less shall be maintained between entry and removal of parts basket or parts.
- or
- ii. Parts basket or parts size shall be less or equal to 50% of the solvent air interface area.
 - d. If cleaning operation involves spraying, spraying must be performed within the vapor zone (i.e., a baffled or enclosed area of the solvent cleaning machine).

- e. The Permittee must ensure that parts or parts basket are positioned so that solvent drains freely and parts basket or parts are not removed from the machine until parts are clean and solvent dripping has stopped.
 - f. During the startup, the Permittee must turn on the primary condenser prior to turning on the sump pump and during shutdown, turn off the sump heater prior to turning off the primary condenser.
 - g. The Permittee must add and remove solvent with leak-proof couplings. The end of the pipe or hose introducing or withdrawing the solvent be located beneath the liquid solvent surface (i.e., submerged filling) in the sump.
 - h. The Permittee must collect and store the waste solvent, still bottoms, and sump bottoms in a closed container. Absorbent materials such as sponges, fabric, wood, and paper products shall not be cleaned.
 - i. Each operator of a solvent cleaning operation must be ready to take and pass an Operator Test at any time during the normal operation of the plant.
7. Each machine must meet the following control combination (freeboard refrigeration and super-heated vapor) requirements, pursuant to 40 CFR Part 63.463:
- a. For Freeboard Refrigeration Device (FRD), chilled air blanket temperature at the center of the air blanket shall not exceed 57°F while using trichloroethylene.
 - i. The temperature measurements must be conducted on weekly basis at the center of the air blanket above the vapor zone during the idling mode. The temperature measurements can be taken by attaching a thermometer or a thermocouple to the parts basket or hoist hook and lowering it into the machine so that it is in the center of the air blanket above the vapor zone.
 - b. For Superheated Vapor System (SVS), solvent vapor at the center of the superheated vapor zone shall be heated to 199°F while using trichloroethylene.
 - i. The temperature measurement shall be conducted on weekly basis at the center of the superheated vapor zone while the machine is idling. The temperature at the center of the Super-heated vapor zone can be measured by attaching a

thermometer or thermocouple to the hoist hook or parts basket and then introducing it into the center of the Superheated vapor zone of the machine. The Permittee shall ensure that parts stay in the superheated vapor zone for the manufacturer's recommended dwell time.

ii. Record the temperature measurement of the superheated vapor.

8a. The Permittee shall comply with the following monitoring procedures requirements, pursuant to 40 CFR Part 63.466.

i. The Permittee shall conduct monitoring and record the results on a weekly basis for Free Board Refrigeration Device, pursuant to 40 CFR Part 63.466(a)(1). A thermometer or thermo couple shall be used to measure the temperature at the center of the air blanket during the idling mode.

ii. The Permittee shall conduct monitoring and record the results on a weekly basis for superheated vapor system, pursuant to 40 CFR Part 63.466(a)(2). A thermometer or thermo couple shall be used to measure the temperature at the center of the superheated solvent vapor zone while the solvent cleaning machine is in the idling mode.

b. The Permittee shall comply with the following monitoring procedures, pursuant to 40 CFR Part 63.466(c).

i. The Permittee shall determine the hoist speed by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes (meters per minute).

ii. The monitoring shall be conducted monthly. If after the first year no exceedances of the hoist speed are measured the Permittee may begin monitoring the hoist speed quarterly.

iii. If an exceedance of the hoist speed occurs during quarterly monitoring the monitoring frequency returns to monthly until another year of compliance without an exceedance is demonstrated.

iv. If the Permittee can demonstrate to the Illinois EPA's satisfaction in the initial compliance report that the hoist cannot exceed a speed of 11 feet per minute, the required monitoring frequency is quarterly, including during the first year of compliance.

9a. The Permittee shall retain the following records on paper or computer disk for the lifetime of the solvent cleaning machine, pursuant to 40 CFR Part 63.467(a):

- i. An owners manual or a written maintenance and operating procedure for each machine and each piece of control equipment.
 - ii. The installation date of each machine. If installation date isn't available, a letter certifying that machine was installed prior to or on or after November 29, 1993, to determine compliance option for existing or new source.
 - iii. Records of the halogenated HAP solvent content of each solvent used in each solvent cleaning machine.
 - b. The Permittee shall retain the following records in electronic or written form for a period of 5 years, pursuant to 40 CFR Part 63.467(b).
 - i. The results of control device monitoring required under 40 CFR Part 63.466.
 - A. The Permittee shall keep the weekly freeboard air temperature measurements.
 - B. Record of weekly temperature measurement of the superheated vapor.
 - ii. Estimates of annual solvent consumption for each solvent cleaning machine.
10. The Permittee shall comply with the following reporting requirements, pursuant to 40 CFR Part 63.468:
 - a. An initial statement of compliance report demonstrating each machine is in compliance must be submitted no later than 150 days after startup. The initial compliance report shall include the following:
 - i. Name and address.
 - ii. Facility location address.
 - iii. A list of control equipment (i.e., FRD, RRD) used on each machine to comply with the rule.
 - iv. For each piece of control equipment required to be monitored, a list of the parameters that are monitored and the values of these parameters measured on or during the first month after the compliance date.
 - b. An annual compliance report must be submitted by February 1, of the year following the year the report covers. The compliance report shall include the following:

- i. A statement, signed by the owner or operator or someone designate, stating that, "All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required by 40 CFR 63.463(d)(10)."
 - ii. Solvent consumption and HAP emissions for each machine in lb/month and ton/year, for the reporting period.
 - c. An exceedance report shall be submitted every 6 months if there is not an exceedance, and every 3 months if there is an exceedance. If an exceedance did not occur the report would consist of a statement certifying that there were no exceedances. The frequency of the exceedance report will increase to quarterly after an exceedance occurs. The quarterly exceedance report shall include the following:
 - i. Information on the actions taken to comply with 40 CFR Part 63.463(e) and (f). This information shall include records of written or verbal orders for replacement parts, a description of the repairs made, and additional monitoring conducted to demonstrate that monitored parameters have returned to accepted levels.
 - ii. If an exceedance has occurred, the reason for the exceedance and a description of the actions taken.
 - iii. If no exceedances of a parameter have occurred, or a piece of equipment has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.
 - d. The Permittee shall submit an exceedance report within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
 - e. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least 5 years, unless specifically stated in the permit, from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in a computer shall be cable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.

11. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Eisenhower Tower
1701 South First Avenue
Maywood, Illinois 60153

It should be noted that this construction permit is issued to allow an increase in trichloroethylene usage from 8 tons per year to 9.9 tons per year.

If you have any questions on this, please call Nathan Frank at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:NAF:psj

cc: Region 1