

GENERAL AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
Air Quality Division
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Portland, OR 97204-1390
Telephone: (503) 229-5359

This permit is issued in accordance with the provisions of ORS 468A.040 and incorporated into OAR 340-216-0060 by the Environmental Quality Commission on December 12, 2008 for the following source category:

Halogenated solvent degreasers using batch cold, batch vapor, and in-line cleaning machines subject to Part 63, Title 40 of Code of Federal Regulations, Subpart T as adopted under OAR 340-244-0220.

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1.0 PERMIT ASSIGNMENT

- 1.1 Qualifications** All of the following conditions must be met in order to qualify for assignment to this General Air Contaminant Discharge Permit (ACDP):
- a. The permittee is performing halogenated solvent degreasing as listed on the cover page of this permit, including supporting activities.
 - b. A Simple or Standard ACDP is not required for the source.
 - c. The source is not having ongoing, recurring or serious compliance problems.
- 1.2 Assignment** The Department will assign qualifying permittees to this permit that have and maintain a good record of compliance with the Department's Air Quality regulations and that the Department determines would be appropriately regulated by a General ACDP. The Department may rescind assignment if the permittee no longer meets the requirements of this permit.
- 1.3 Permitted Activities** The permittee is allowed to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, revoked or rescinded as long as conditions of this permit are complied with. If there are other emissions activities occurring at the site besides those listed on the cover page of this permit, the permittee may be required to obtain a Simple or Standard ACDP or additional General ACDP(s), if applicable.

2.0 GENERAL EMISSION STANDARDS AND LIMITS

- 2.1 Visible Emissions** The permittee must comply with the following visible emission limits, as applicable:
- a. Emissions from any air contaminant source must not equal or exceed 20% opacity for a period aggregating more than 3 minutes in any one hour.
 - b. In Clackamas, Columbia, Multnomah, or Washington Counties, emissions from any air contaminant source other than fuel burning equipment must not equal or exceed 20% opacity for a period aggregating more than 30 seconds in any one hour.
- 2.2 Particulate Matter Emissions** The permittee must comply with the following particulate matter emission limits, as applicable:

- a. Particulate matter emissions from any air contaminant source, other than fuel burning equipment and fugitive emission sources, installed on or before June 1, 1970, must not exceed 0.2 grains per dry standard cubic foot.
 - b. Particulate matter emissions from any air contaminant source, other than fuel burning equipment and fugitive emission sources, installed after June 1, 1970, must not exceed 0.1 grains per dry standard cubic foot.
- 2.3 Fugitive Emissions** The permittee must take reasonable precautions to prevent fugitive dust emissions, such as but not limited to:
- a. Treating vehicular traffic areas of the plant site under the control of the permittee.
 - b. Operating all air contaminant-generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times.
 - c. Storing collected materials from air pollution control equipment in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.
- 2.4 Particulate Matter Fallout** The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. The Department will verify that the deposition exists and will notify the permittee that the deposition must be controlled.
- 2.5 Nuisance and Odors** The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by Department personnel.

A compliance handbook is available from the DEQ's Small Business Technical Assistance Program by calling (503) 229-6147.

3.0 SPECIFIC EMISSION STANDARDS AND LIMITS

- 3.1 HAP Emissions Limit** Hazardous air pollutant (HAP) emissions must not exceed the following limits for each 12-consecutive calendar month period:
- a. 9.9 tons for each individual HAP; and
 - b. 24.9 tons for combined HAPs.
- 3.2 Halogenated Solvent**
- a. **Batch Cold Cleaning Machines:** For each affected batch cold cleaning machine, the permittee must comply with the following requirements, as applicable:
 - i. Immersion cold cleaner: Employ a tightly fitting cover that must be closed at all times except during parts entry and removal, and one of the following controls:
 - A 0.75 freeboard ratio (or greater); or
 - A 2.5 cm [1 inch] water layer.
 - ii. Remote reservoir cold cleaner: Employ a tightly fitting cover over the solvent sump that must be closed at all times except during the cleaning of parts.
 - b. **Batch Vapor and In-line Cleaning Machines:** For each affected batch vapor or in-line cleaning machine, the permittee must comply with either the control requirements or the alternative standards.
 - i. Control Requirements: The permittee must employ one of the control combinations listed in Attachment 1 or other equivalent methods of control as determined using the procedures in 40 CFR 63.469.
 - ii. Alternative Standards/Overall Emission Limits: For each batch vapor or in-line cleaning machine, as an alternative to the control requirements in Condition 3.2b.i, the permittee can demonstrate that the emissions from the cleaning machine are equal to or less than the following overall emission limits.

Affected Machine	Average Monthly Emission Limit*
Batch vapor degreaser	150 kg/m ² or 30.7 lb/ft ²
Existing In-line degreaser	153 kg/m ² or 31.4 lb/ft ²

New In-line degreaser 99 kg/m² or 20 lb/ft²

*based on a 3-month rolling average.

If the cleaning machine is a batch vapor cleaning machine and does not have a solvent/air interface, the permittee must determine the overall emission limit according to 40 CFR 63.464(a)(2). Any combination of control techniques may be used to meet the overall emission limits.

- iii. Alternative Standards/Overall Control System Efficiency: For each continuous web or remote reservoir continuous web cleaning machine, as an alternative to the control requirements in Condition 3.2b.i, the permittee can demonstrate an overall cleaning system control efficiency of 70 percent or greater using the procedures in Condition 6.3. This demonstration can be made for either a single cleaning machine or for a solvent cleaning system that contains one or more cleaning machines and ancillary equipment, such as storage tanks and distillation units. If the demonstration is made for a cleaning system, the facility must identify any modifications required to the procedures in Condition 6.3 and they must be approved.

3.3 General Design Requirements

For each batch vapor or in-line cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must ensure the machine conforms to the following design requirements. For each continuous web or remote reservoir continuous web cleaning machine, the permittee must comply with the requirements in Condition 3.4 or 3.5, as appropriate, in lieu of complying with Condition 3.3.

- a. **Air disturbances**: Each cleaning machine must be designed or operated to meet the following control equipment or technique requirements:
 - i. A reduced room draft of 50 feet per minute or less.
 - ii. An idling and downtime mode cover that may be readily opened or closed, that completely covers the cleaning machine openings when in place, and is free of cracks, holes or other defects; or
- b. **Freeboard ratio**: Each cleaning machine must have a freeboard ratio of 0.75 or greater.
 - i. Parts handling system: Each cleaning machine must have an automated parts handling system

capable of moving parts or parts baskets at a speed of 11 feet per minute or less from the initial loading of parts through removal of cleaned parts.

- ii. Sump heat shutoff: Each vapor cleaning machine must be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils. This requirement does not apply to a vapor cleaning machine that uses steam to heat the solvent.
- iii. Vapor level control: Each vapor cleaning machine must be equipped with a vapor level control device that shuts off sump heat if the vapor level rises above the height of the primary condenser.
- iv. Vapor cleaning machines: Each vapor cleaning machine must have a primary condenser.
- v. Lip exhaust: Each cleaning machine that uses lip exhaust must be designed and operates to route all collected solvent vapors through a properly operated and maintained carbon adsorber.

3.4 Design Requirements for Continuous Web Cleaning Machines

For each continuous web cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must ensure the machine conforms to the following design requirements.

- a. **Air disturbances**: Each cleaning machine must meet one of the following control equipment or technique requirements.
 - i. An idling and downtime mode cover that may be readily opened or closed; that completely covers the cleaning machine openings when in place; and is free of cracks, holes, and other defects. A continuous web part that completely occupies an entry or exit port when the machine is idle is considered to meet this requirement.
 - ii. A reduced room draft of 50 feet per minute or less.
 - iii. Gasketed or leakproof doors that separate both the continuous web part feed reel and take-up reel from the room atmosphere if the doors are checked according to the requirements of Condition 6.2c.
 - iv. A cleaning machine that is demonstrated to be under negative pressure during idling and downtime and is vented to a carbon adsorption

system that meets either the overall control system efficiency of Condition 3.2b.iii or Condition 6.2g.

- b. **Freeboard ratio:** Each continuous web cleaning machine must have a freeboard ratio of 0.75 or greater unless that cleaning machine is a remote reservoir continuous web cleaning machine.
- c. **Automated parts handling system:** Each cleaning machine must have an automated parts handling system capable of moving parts or part baskets at a speed of 11 feet per minute or less from the initial loading of parts through removal of cleaned parts, unless the cleaning machine is a continuous web cleaning machine that has a squeegee system or air knife system installed, maintained, and operated on the continuous web cleaning machine meeting the requirements of Condition 6.2.
- d. **Sump heat shutoff:** Each vapor cleaning machine must be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils. This requirement does not apply to a vapor cleaning machine that uses steam to heat the solvent.
- e. **Vapor level control:** Each vapor cleaning machine must be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.
- f. **Primary condenser:** Each vapor cleaning machine must have a primary condenser.
- g. **Exhaust:** Each cleaning machine that uses lip exhaust or any other exhaust within the solvent cleaning machine must be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber that meets either the overall control system efficiency of Condition 3.2b.iii or Condition 6.2g.

3.5 Design Requirements for Remote Reservoir Continuous Web

For each remote reservoir continuous web cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must ensure the machine conforms to the following design requirements:

**Cleaning
Machines**

- a. **Automated parts handling system:** Each cleaning machine must have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts, unless the cleaning machine is a continuous web cleaning machine that has a squeegee system or air knife system installed, maintained, and operated on the continuous web cleaning machine meeting the requirements of Condition 6.2.
- b. **Sump heat shutoff:** Each vapor cleaning machine must be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.
- c. **Vapor level control:** Each vapor cleaning machine must be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.
- d. **Primary condenser:** Each vapor cleaning machine must have a primary condenser.
- e. **Exhaust:** Each cleaning machine that uses lip exhaust or any other exhaust within the solvent cleaning machine must be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber that meets either the overall control system efficiency of Condition 3.2b.iii or Condition 6.2g.

**3.6 Facility-Wide
Perchloroethylene
Emission Limit**

The permittee must ensure that the total emissions of perchloroethylene (PCE) used at the affected facility are equal to or less than 4,800 kg (10,582 lbs) on a 12-month rolling average, according to the following schedule.

- a. Each affected facility that was constructed or reconstructed on or before August 17, 2006, must be in compliance with the facility-wide perchloroethylene emission limit no later than May 3, 2010.
- b. Each affected facility that was constructed or reconstructed on or after August 17, 2006, must be in compliance with the facility-wide perchloroethylene emission limit prior to being assigned to this permit or immediately upon startup, whichever is later.

4.0 OPERATION AND MAINTENANCE REQUIREMENTS

4.1 Work practices for Batch Cold Cleaning Machines

For each immersion cold cleaner complying with the freeboard ratio requirement or each remote reservoir cold cleaner, the permittee must meet all the following work and operational practices:

- a. **Waste collection and storage:** All waste solvent must be collected and stored in closed containers. The closed container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.
- b. **Flushing:** If a flexible hose or flushing device is used, flushing must be performed only within the freeboard area of the solvent cleaning machine.
- c. **Parts drainage:** The permittee must drain solvent cleaned parts for 15 seconds or until dripping has stopped, whichever is longer. Parts having cavities or blind holes must be tipped or rotated while draining.
- d. **Fill line:** The permittee must ensure that the solvent level does not exceed the fill line.
- e. **Spills:** Spills during solvent transfer must be wiped up immediately. The wipe rags must be stored in covered containers meeting the requirements of Condition 4.1a.
- f. **Air- or pump-agitated solvent bath:** When an air- or pump-agitated solvent bath is used, the permittee must ensure that the agitator is operated to produce a rolling motion of the solvent but not observable splashing against tank walls or parts being cleaned.
- g. **Room draft:** The permittee must ensure that, when the cover is open, the cold cleaning machine is not exposed to drafts greater than 132 feet per minute as measured between 3.3 and 6.6 feet upwind and at the same elevation as the tank lip.
- h. **Porous materials:** Except, as provided in Condition 4.1i, sponges, fabric, wood, and paper products must not be cleaned.
- i. **Porous material exception:** The prohibition in Condition 4.1h does not apply to the cleaning of porous materials that are part of polychlorinated biphenyl (PCB) laden transformers if those transformers are handled throughout the cleaning process and disposed of in compliance with

an approved PCB disposal permit issued in accordance with the Toxic Substances Control Act.

4.2 Work practices for Batch Vapor and In-Line Cleaning Machines

For each batch vapor or in-line cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must meet all the following work and operational practices. For each continuous web cleaning machine, the permittee must comply with the requirements in Conditions 4.3 or 4.4, as appropriate, in lieu of complying with Condition 4.2.

- a. **Air disturbances:** Control air disturbances across the cleaning machine openings by incorporating the following control equipment or techniques:
 - i. Cover(s) to each solvent cleaning machine must be in place during the idling mode, and during the downtime mode unless either the solvent has been removed or maintenance or monitoring is being performed that requires the cover(s) to not be in place; or
 - ii. A reduced room draft of 50 feet per minute or less.
- b. **Parts coverage:** The parts baskets or the parts being cleaned in an open-top batch vapor cleaning machine must not occupy more than 50 percent of the solvent/air interface area unless the parts baskets or parts are introduced at a speed of 3.0 feet per minute or less.
- c. **Spraying operations:** Any spraying must be done within the vapor zone or within a section of the solvent cleaning machine that is not directly exposed to the ambient air.
- d. **Parts orientation:** Parts must be oriented so that the solvent drains from them freely. Parts having cavities or blind holes must be tipped or rotated before being removed from any solvent cleaning machine unless an equally effective approach has been approved.
- e. **Parts drainage:** Parts baskets or parts must not be removed from any solvent cleaning machine until dripping has stopped.
- f. **Startup:** During shutdown of each vapor cleaning machine, the sump heater must be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.
- g. **Shutdown:** During shutdown of each vapor cleaning machine, the sump heater must be turned off and the solvent vapor layer allowed to collapse before the primary

condenser is turned off.

- h. **Solvent addition or drainage:** When solvent is added or drained from any solvent cleaning machine, the solvent must be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump must be located beneath the liquid solvent surface.
- i. **Maintenance:** Each solvent cleaning machine and associated controls must be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to achieve the same or better results as those recommended by the manufacturer.
- j. **Operator test:** Each operator of a solvent cleaning machine must complete and pass the applicable sections of the test of solvent cleaning procedures in Appendix A to 40 CFR part 63 subpart T if requested during an inspection.
- k. **Waste collection and storage:** Waste solvent, still bottoms, and sump bottoms must be collected and stored in closed containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.
- l. **Porous materials:** Sponges, fabric, wood, and paper products must not be cleaned.

4.3 Work Practices for Continuous Cleaning Machines

For each continuous web cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must comply with the following provisions:

- a. **Air disturbances:** Control air disturbances across the cleaning machine opening(s) by incorporating one of the following control equipment or techniques:
 - i. **Idling and downtime cover:** Cover(s) to each solvent cleaning machine must be in place during the idling mode and during the downtime mode unless either the solvent has been removed from the machine or maintenance or monitoring is being performed that requires the cover(s) in place. A continuous web part that completely occupies an entry or exit port when the machine is idle is considered to meet this requirement.
 - ii. **Reduced room draft:** A reduced room draft of 50 feet per minute or less.

- iii. Gasketed or leakproof doors or covers: Gasketed or leakproof doors or covers that separate both the continuous web part feed reel and take-up reel from the room atmosphere if the doors are checked according to the requirements of Condition 6.2c.
 - iv. Negative pressure: A cleaning machine that is demonstrated to be under negative pressure during idling and downtime and is vented to a carbon adsorption system that meets either the overall control system efficiency of Condition 3.2b.iii or Condition 6.2g.
- b. **Spraying operations:** Any spraying operations must be conducted in a section of the solvent cleaning machine that is not directly exposed to the ambient air or within a machine having a door or cover that meets the requirements of Condition 4.2a.
 - c. **Startup:** During startup of each vapor cleaning machine, the primary condenser must be turned on before the sump heater.
 - d. **Shutdown:** During shutdown of each vapor cleaning machine, the sump heater must be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.
 - e. **Solvent addition or drainage:** When solvent is added or drained from any solvent cleaning machine, the solvent must be transferred using threaded or other leakproof couplings, and the end of the pipe in the solvent sump must be located beneath the liquid solvent surface.
 - f. **Maintenance:** Each solvent cleaning machine and associated controls must be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to achieve the same or better results as those recommended by the manufacturer.
 - g. **Waste collection and storage:** Waste solvent, still bottoms, sump bottoms, and waste absorbent materials used in the cleaning process for continuous web cleaning machines must be collected and stored in waste containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.

- h. **Porous materials:** Except as provided in Condition 4.3i, sponges, fabric, wood, and paper products must not be cleaned.
- i. **Porous material exemption:** The prohibition in Condition 4.3h does not apply to absorbent materials that are used as part of the cleaning process of continuous web cleaning machines, including rollers and roller covers.

**4.4 Work Practices
for Remote
Reservoir
Continuous Web
Cleaning
Machines**

For each remote reservoir continuous web cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must comply with the following provisions:

- a. **Spraying operations:** Any spraying operations must be conducted in a section of the solvent cleaning machine that is not directly exposed to the ambient air or within a machine having a door or cover that meets the requirements of Condition 4.2a.
- b. **Startup:** During startup of each vapor cleaning machine, the primary condenser must be turned on before the sump heater.
- c. **Shutdown:** During shutdown of each vapor cleaning machine, the sump heater must be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.
- d. **Solvent addition or drainage:** When solvent is added or drained from any solvent cleaning machine, the solvent must be transferred using threaded or other leakproof couplings, and the end of the pipe in the solvent sump must be located beneath the liquid solvent surface.
- e. **Maintenance:** Each solvent cleaning machine and associated controls must be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to achieve the same or better results as those recommended by the manufacturer.
- f. **Waste collection and storage:** Waste solvent, still bottoms, sump bottoms, and waste absorbent materials used in the cleaning process for continuous web cleaning machines must be collected and stored in waste containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.
- g. **Porous materials:** Except as provided in Condition 4.4h,

sponges, fabric, wood, and paper products must not be cleaned.

- h. **Porous material exemption:** The prohibition in Condition 4.4g does not apply to absorbent materials that are used as part of the cleaning process of continuous web cleaning machines, including rollers and roller covers.

5.0 PLANT SITE EMISSION LIMITS

- 5.1 Plant Site Emission Limits (PSEL)** Plant site emissions must not exceed 39 tons of VOC per year.
- 5.2 Annual Period** The annual plant site emissions limits apply to any 12-consecutive calendar month period.

6.0 COMPLIANCE DEMONSTRATION

- 6.1 Overall Emission Limit Compliance Demonstration**
- a. **Solvent maintenance:** For each batch vapor or in-line solvent cleaning machine complying with the overall emission limit in Condition 3.2b.ii, on the first operating day of the month, the permittee must ensure that the solvent cleaning machine system contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent and used solvent that has been cleaned of soils. A fill line must be indicated during the first month the measurements are made. The solvent level within the machine must be returned to the same fill-line each month, immediately prior to calculating monthly emissions as specified in Condition 6.1b. The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations.
- b. **Solvent emissions:** Using the records of all solvent additions and deletions for the previous monthly reporting period, determine solvent emissions (E_i) using equation 1 for cleaning machines with a solvent/air interface and equation 2 for cleaning machines without a solvent/air interface:

$$E_i = \frac{SA_i - LSR_i - SSR_i}{AREA_i} \quad (1)$$

$$E_n = SA_i - LSR_i - SSR_i \quad (2)$$

- E_i = the total halogenated HAP solvent emissions from the solvent cleaning machine during the most recent monthly reporting period i , (kilograms of solvent per square meter of solvent/air interface area per month)
- E_n = the total halogenated HAP solvent emissions from the solvent cleaning machine during the most recent monthly reporting period i , (kilograms of solvent per month)
- S_{aj} = the total amount of halogenated HAP liquid solvent added to the solvent cleaning machine during the most recent monthly reporting period i , (kilograms of solvent per month)
- LSR_i = the total amount of halogenated HAP liquid solvent removed from the solvent cleaning machine during the most recent monthly reporting period i , (kilograms of solvent per month)
- SSR_i = the total amount of halogenated HAP solvent removed from the solvent cleaning machine in solid waste during the most recent monthly reporting period i , (kilograms of solvent per month)
- $AREA_i$ = the solvent/air interface area of the solvent cleaning machine (square meters)

- c. **Solvent removed:** Determine SSR_j from tests conducted using EPA Reference Method 25d or by engineering calculations included in the compliance report.
- d. **3-month rolling average solvent emissions:** Determine the monthly rolling average, EA , for the 3 month period ending with the most recent reporting period using equation 3 for cleaning machines with a solvent/air interface or equation 4 for cleaning machines without a solvent/air interface:

$$EA_i = \frac{\sum_{j=1}^3 E_i}{3} \quad (3)$$

$$EA_n = \frac{\sum_{j=1}^3 E_n}{3} \quad (4)$$

Where:

- E_{aj} = the average halogenated HAP solvent emissions over the preceding 3 monthly reporting periods, (kilograms of solvent per square meter of solvent/air interface area per month)
- E_{an} = the average halogenated HAP solvent emissions over the preceding 3 monthly reporting periods, (kilograms of solvent per month)
- E_i = halogenated HAP solvent emissions for each month (j) for the most recent 3 monthly reporting periods (kilograms of solvent per square meter of solvent/air interface area)
- E_n = halogenated HAP solvent emissions for each month (j) for the most recent 3 monthly reporting periods (kilograms of solvent per month)
- $j=1$ = the most recent monthly reporting period
- $j=2$ = the monthly reporting period immediately prior to $j=1$
- $j=3$ = the monthly reporting period immediately prior to $j=2$

6.2 Control Requirements, Design Requirements, and Work Practices Compliance Demonstration

For each batch vapor or in-line cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must determine, during each monitoring period, whether each control device used to comply with the control requirements in Condition 3.2b.i, design requirements in Conditions 3.3, 3.4, and 3.5, and work practices in Conditions 4.2, 4.3, and 4.4 meets the following requirements. The type and frequency of monitoring will be dictated by the compliance method chosen by the permittee.

a. **Freeboard refrigeration:**

- i. Freeboard refrigeration maintenance: The permittee must ensure that the chilled air blanket temperature, measured at the center of the air blanket using a thermometer or thermocouple, is no greater than 30 percent of the solvent's boiling point during the idling mode.

- ii. Freeboard refrigeration temperature monitoring:
The permittee must determine and record the temperature on a weekly basis.

b. **Reduced room draft:**

- i. Room draft measurement: The permittee must ensure that the flow or movement of the air across the top of the freeboard area of the solvent cleaning machine enclosure does not exceed 50 feet per minute at any time.
- ii. Room draft maintenance: The permittee must establish and maintain the operating conditions under which the speed was demonstrated to be 50 feet per minute or less.
- iii. Room draft monitoring: The permittee must conduct monitoring and record the results as follows:

If reduced room draft is maintained by controlling room parameters (i.e., redirecting fans, closing doors and windows, etc.) the permittee must conduct an initial monitoring test of the windspeed and of room parameters, quarterly monitoring of windspeed, and weekly monitoring of room parameters as follows:

- Measure the windspeed within 6 inches above the top of the freeboard area of the solvent cleaning machine using the following procedures:
- Determine the direction of the wind current by slowly rotating a velometer or similar device until the maximum speed is located.
- Orient a velometer in the direction of the wind current at each of the four corners of the machine.
- Record the reading for each corner.
- Average the values obtained at each corner and record the average wind speed.
- Monitor on a weekly basis the room parameters established during the initial compliance test that are used to achieve the reduced room draft.

If an enclosure (full or partial) is used to achieve a reduced room draft, the permittee must conduct an initial monitoring test and, thereafter, monthly monitoring tests of the windspeed within the enclosure using the following procedure and a monthly visual inspection of the enclosure to determine if it is free of cracks, holes and other defects.

- Determine the direction of the wind current in the enclosure by slowly rotating a velometer inside the entrance to the enclosure until the maximum speed is located.
- Record the maximum wind speed.

c. **Working-mode cover:**

- i. Cover Operation: The permittee must ensure that the cover opens only for part entrance and removal and completely covers the cleaning machine openings when closed.
- ii. Cover maintenance: The permittee must ensure that the cover is maintained free of cracks, holes, and other defects.
- iii. Cover monitoring: The permittee must inspect and record the results of the inspection on a monthly basis to determine if the cover is opening and closing properly, completely covers the openings when closed, and is free of cracks, holes, and other defects.

d. **Idling-mode cover:**

- i. Cover operation: The permittee must ensure that the cover is in place whenever parts are not in the solvent cleaning machine and completely covers the cleaning machine openings when in place.
- ii. Cover maintenance: The permittee must ensure that the cover is maintained free of cracks, holes, and other defects.
- iii. Cover monitoring: The permittee must inspect and record the results of the inspection on a monthly basis to determine if the cover is opening and closing properly, completely covers the openings when closed, and is free of cracks, holes, and other

defects.

e. **Dwell:**

- i. Determination of appropriate dwell time: The permittee must determine the amount of time for the part or parts basket to cease dripping once placed in the vapor zone for each type of part or parts basket, or using the most complex part type. The proper dwell time for parts to remain in the freeboard area above the vapor zone is no less than 35 percent of the time determined. The parts or parts basket used for this determination must be at room temperature before being placed in the vapor zone.
- ii. Dwell time maintenance: The permittee must ensure that, after cleaning, each part is held in the solvent cleaning machine freeboard area above the vapor zone for the dwell time determined for that particular part or parts basket, or for the maximum dwell time determined using the most complex part type or parts basket.
- iii. Dwell time monitoring: The permittee must determine and record the actual dwell time, on a monthly basis, by measuring the period of time that parts are held within the freeboard area of the solvent cleaning machine after cleaning.

f. **Superheated vapor system:**

- i. Superheated vapor system maintenance: The permittee must ensure that the temperature of the solvent vapor at the center of the superheated vapor zone, using a thermometer or thermocouple, is at least 10 °F above the solvent's boiling point in the idling mode. The permittee must determine and record the temperature on a weekly basis.
- ii. Superheated vapor system dwell time: The permittee must ensure that the manufacturer's specifications for determining the minimum proper dwell time within the superheated vapor system is followed. The permittee must ensure that the parts remain within the superheated vapor for at least the minimum proper dwell time.
- iii. Superheated vapor system temperature monitoring: The permittee must determine and record the

temperature on a weekly basis.

- g. **Carbon adsorber:** If a carbon adsorber in conjunction with a lip exhaust or other exhaust internal to the cleaning machine is used to comply with these standards, the permittee must comply with the following requirements.
- i. Carbon adsorber maintenance: The permittee must ensure that the concentration of organic solvent in the exhaust from this device does not exceed 100 parts per million of any halogenated HAP compound as measured. If the halogenated HAP solvent concentration in the carbon adsorber exhaust exceeds 100 parts per million, the permittee must adjust the desorption schedule or replace the disposable canister, if not a regenerative system, so that the exhaust concentration of the halogenated HAP solvent is brought below 100 parts per million.
 - ii. Carbon adsorber operation: The permittee must ensure that the carbon adsorber bed is not bypassed during desorption.
 - iii. Lip exhaust location: The permittee must ensure that the lip exhaust is located above the solvent cleaning machine cover so that the cover closes below the lip exhaust level.
 - iv. Monitoring sampling port: The permittee must provide a sampling port for monitoring within the exhaust outlet of the carbon adsorber that is easily accessible and located at least 8 stack or duct diameters downstream from any flow disturbance such as a bend, expansion, contraction, or outlet; downstream from no other inlet; and 2 stack or duct diameters upstream from any flow disturbance such as a bend, expansion, contraction, inlet or outlet.
 - v. Carbon adsorber monitoring: The permittee must measure and record the concentration of halogenated HAP solvent in the exhaust of the carbon adsorber weekly with a colorimetric detector tube. This test must be conducted while the solvent cleaning machine is in the working mode and is venting to the carbon adsorber. The permittee must use a colorimetric detector tube designed to measure a concentration of 100 parts

per million by volume of solvent in air to an accuracy of ± 25 parts per million by volume. The permittee must use the colorimetric detector tube according to the manufacturer's instructions.

h. Parts Handling System:

- i. Hoist speed determination: The permittee must 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 feet divided by the time in meters divided by the time in minutes.

Hoist speed monitoring: The hoist speed determination must be done monthly. If after the first year, no exceedances of the hoist speed are measured, the permittee may begin monitoring the hoist speed quarterly. 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. If the permittee can demonstrate 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.

i. Superheated Part System:

- i. Superheated part system monitoring: If a superheated part system is used to comply with the control requirements in Condition 3.2b.i, the permittee must use a thermometer, thermocouple, or other temperature measurement device to measure the temperature of the continuous web part while it is in the solvent cleaning machine. This temperature can also be taken at the exit of the solvent cleaning machine.

- ii. Alternative superheated part system monitoring: As alternative to complying with the preceding superheated part system monitoring, Condition 6.2.i.i, the permittee can provide data that demonstrate that the part temperature remains above the boiling point of the solvent at all times that the part is within the continuous web solvent cleaning machine. This data could include design and operating conditions such as information

supporting any exothermic reaction inherent in the processing.

- iii. Superheated part system maintenance: The permittee must ensure that the temperature of the continuous web part is at least 10 degrees Fahrenheit above the solvent boiling point while the part is traveling through the cleaning machine.
- j. **Squeegee System**: If a squeegee system is used to comply with the continuous web or remote reservoir continuous web cleaning requirements of Condition 3.4c or 3.5a, the permittee must comply with the following requirements:
 - i. Maximum product throughput determination: Determine the appropriate maximum product throughput for the squeegees used in the squeegee system, as follows:
 - Conduct daily visible inspections of the continuous web part. This monitoring must be conducted at the point where the continuous web part exits the squeegee system. It is not necessary for the squeegees to be new at the time monitoring is begun if the following conditions are met.
 - The continuous web part leaving the squeegee system has no visible solvent film.
 - The amount of continuous web that has been processed through the squeegees since the last replacement is known.
 - Continue daily monitoring until a visible solvent film is noted on the continuous web part.
 - Determine the length of continuous web product that has been cleaned using the squeegee since it was installed.
 - The maximum product throughput is equal to the time it takes to clean 95 percent of the length of product determined above. This time period, in days, may vary depending on the amount of continuous web product cleaned each day.
 - ii. Squeegee monitoring: The permittee must visually inspect the continuous web part exiting the solvent cleaning machine to ensure that no solvent film is

- visible on the part. Record both results of the visible inspection and the length of continuous web product cleaned during the previous week.
- iii. Product processed: Calculate the total amount of continuous web product processed since the squeegees were replaced and compare to the maximum product throughput for the squeegees.
 - iv. Squeegee replacement: Ensure squeegees are replaced at or before the maximum product throughput is attained.
 - v. Recalculation of maximum product throughput: Redetermine the maximum product throughput for the squeegees if any solvent film is visible on the continuous web part immediately after it exits the cleaning machine.
- k. **Air Knife System**: If an air knife system is used to comply with the continuous web or remote reservoir continuous web cleaning requirements of Condition 3.4c or 3.5a, the permittee must comply with the following requirements.
- i. Air knife parameter determination: Determine the air knife parameter and parameter value that demonstrate that the air knife is properly operating. An air knife is properly operating if no visible solvent film remains on the continuous web part after it exits the cleaning machine.
 - ii. Air knife parameter maintenance: Maintain the selected air knife parameter value at the level determined in the preceding air knife parameter in Condition 6.2.k.i.
 - iii. Air knife monitoring: The permittee must visually inspect the continuous web part exiting the solvent cleaning machine to ensure that no solvent film is visible on the part.
 - iv. Redetermination of air knife parameter: Redetermine the proper air knife parameter value if any solvent film is visible on the continuous web part immediately after it exits the cleaning machine.
- l. **Combination squeegee and air knife system**: If a combination squeegee and air knife system is used to

comply with the continuous web or remote reservoir continuous web cleaning requirements of Condition 3.4c or 3.5a, the permittee must comply with the following requirements:

- i. Squeegee air knife parameter determination:
Determine the system parameter and value that demonstrate that the system is properly operating.
- ii. Squeegee and air knife parameter maintenance:
Maintain the selected parameter value at the level determined in the preceding squeegee air knife parameter determination, Condition 6.2.1.i.
- iii. Squeegee and air knife monitoring: The permittee must visually inspect the continuous web part exiting the solvent cleaning machine to ensure that no solvent film is visible on the part.
- iv. Redetermination of squeegee air knife parameter:
Redetermine the proper parameter value if any solvent film is visible on the continuous web part immediately after it exits the cleaning machine.

6.3 Overall Control System Efficiency Compliance Demonstration

For each continuous web or remote reservoir continuous web cleaning machine complying with the overall control system efficiency in Condition 3.2b.iii, on the first operating day of the month, the permittee must ensure that the solvent cleaning machine system contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent and used solvent that has been cleaned of soils. A fill line must be indicated during the first month the measurements are made. The solvent level within the machine must be returned to the same fill-line each month, immediately prior to calculating the overall cleaning system control efficiency. The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations.

- a. **Overall control system efficiency determination:** For each continuous web or remote reservoir continuous web cleaning machine complying with the overall control system efficiency in Condition 3.2b.iii, the permittee must, on the first operating day of the month, determine the overall control system efficiency as follows.

Using the records of all solvent additions, solvent deletions, and solvent recovered from the carbon adsorption system for the previous monthly reporting

period required under Condition 7.4, determine overall control system efficiency (E_o) using the following equation.

$$E_o = R_i / (R_i + Sa_i - SSR_i)$$

Where:

- E_o = overall cleaning system control efficiency
- R_i = the total amount of halogenated HAP liquid solvent recovered from the carbon adsorption system and recycled to the solvent cleaning system during the most recent monthly reporting period i , (kilograms of solvent per month)
- Sa_i = the total amount of halogenated HAP liquid solvent added to the solvent cleaning system during the most recent monthly reporting period i , (kilograms of solvent per month)
- SSR_i = the total amount of halogenated HAP solvent removed from the solvent cleaning system in solid waste, obtained as described in Condition 6.1c, during the most recent monthly reporting period i , (kilograms of solvent per month)

6.4 HAP Emissions

- a. Compliance with the individual HAP emission limit in Condition 3.1 is determined for each 12-consecutive calendar month period based on the following calculation for each HAP:

where,

$$E_{HAPI} = [\sum(C_X * D_X * K_X) - W] \times 1 \text{ ton} / 2000\text{lb.}$$

- E_{HAPI} = Individual HAP emissions (ton/yr.);
- I = Subscript I represents a specific HAP
- \sum = Symbol meaning the sum of the emissions from all types of materials used.
- C = Material usage for the period in gallons;
- D = Material density in pounds per gallon;
- K = Material HAP fraction in pounds of HAP per pound of material;
- X = Subscript X represents a specific material;
- W = Weight of HAP shipped offsite

- b. Compliance with the combined HAP emission limit in Condition 3.1 is determined for each 12-consecutive calendar month period by summing the individual HAP emissions determined in a, above.

6.5 VOC Emissions Compliance with the VOC PSEL in Condition 5.1 is determined for each 12-consecutive calendar month period based on the following calculation:

$$E_{VOC} = [\sum(C_X * D_X * K_X) - W] \times 1 \text{ ton} / 2000\text{lb.}$$

where,

- E_{VOC} = VOC emissions (ton/yr.);
- \sum = Symbol meaning the sum of the emissions from all types of materials used.
- C = Material usage for the period in gallons;
- D = Material density in pounds per gallon;
- K = Material VOC fraction in pounds of VOC per pound of material;
- X = Subscript X represents a specific material;
- W = Weight of VOC shipped offsite

6.6 Perchloroethylene Emissions The permittee must, on the first operating day of every month, demonstrate compliance with the facility-wide perchloroethylene emission limit in Condition 3.6 on a 12-month rolling total basis using the following procedures.

- a. The permittee must, on the first operating day of every month, ensure that each solvent cleaning machine system using perchloroethylene contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent, and used solvent that has been cleaned of soiled materials. A fill line must be indicated during the first month the measurements are made. The solvent level within the machine must be returned to the same fill-line each month, immediately prior to calculating monthly emissions as follows. The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations.
- b. The permittee must, on the first operating day of the month, using the records of all solvent additions and deletions for the previous month, determine perchloroethylene emissions (E_{unit}) from each solvent cleaning machine using the following equation:

$$E_{unit} = SA_i - LSR_i - SSR_i$$

where,

- E_{unit} = the total perchloroethylene emissions from the solvent cleaning machine during the most recent month i , (kilograms of solvent per month);
- SA_i = the total amount of perchloroethylene liquid solvent added to the solvent cleaning machine during the most

recent month i , (kilograms of solvent per month);
 LSR_i = the total amount of perchloroethylene liquid solvent removed from the solvent cleaning machine during the most recent month i , (kilograms of solvent per month);
 SSR_i = the total amount of perchloroethylene solvent removed from the solvent cleaning machine in solid waste, obtained as described in Condition 6.6c, during the most recent month i , (kilograms of solvent per month).

- c. The permittee must, on the first operating day of the month, determine SSR_i from tests conducted using EPA reference method 25d or by engineering calculations included in the compliance report.
- d. The permittee must on the first operating day of the month, after 12 months of perchloroethylene emissions data are available, determine the 12-month rolling total perchloroethylene emissions, ET_{unit} , for the 12-month period ending with the most recent month using the following equation:

$$ET_{unit} = [\sum E_{unit}]$$

where,

ET_{unit} = the total perchloroethylene solvent emissions over the preceding 12 months, (kilograms of solvent emissions per 12-month period);

Σ = Symbol meaning the sum of the monthly perchloroethylene emissions;

E_{unit} = perchloroethylene solvent emissions for each month for the most recent 12 months (kilograms of solvent per month).

- e. The permittee must on the first operating day of the month, after 12 months of emissions data are available, determine the 12-month rolling total perchloroethylene emissions, $ET_{facility}$, for the 12-month period ending with the most recent month using following equation:

$$ET_{facility} = [\sum ET_{unit}]$$

where,

$ET_{facility}$ = the total perchloroethylene solvent emissions over the preceding 12 months for all cleaning machines at the facility, (kilograms of solvent emissions per 12-month period);

Σ = Symbol meaning the sum of the monthly perchloroethylene emissions;

ET_{unit} = the total perchloroethylene solvent emissions over the preceding 12 months for each unit at the facility (kilograms of solvent per month).

- f. If the facility-wide perchloroethylene emission limit in Condition 3.6 is not met, an exceedance has occurred. All exceedances must be reported as required in Condition 8.11.

7.0 RECORDKEEPING REQUIREMENTS

7.1 General Recordkeeping for Control Requirements

For each batch vapor or in-line solvent cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must maintain the following records in written or electronic form for the lifetime of the machine.

- a. **Machine and control equipment documentation:** Owner's manuals, or if not available, written maintenance and operating procedures, for the solvent cleaning machine and control equipment.
- b. **Machine and control device installation:** The date of installation for the solvent cleaning machine and all of its control devices. If the exact date for installation is not known, a letter certifying that the cleaning machine and its control devices were installed prior to, or on, November 29, 1993, or after November 29, 1993, may be substituted.
- c. **Dwell time determinations:** If a dwell is used to comply with the control requirements in Condition 3.2a, records of the tests required in Condition 6.2e to determine an appropriate dwell time for each part or parts basket.
- d. **Halogenated HAP solvent content:** Records of the halogenated HAP solvent content for each solvent used in a solvent cleaning machine.
- e. **Squeegee system maximum product throughput:** If a squeegee system is used to comply, records of the test required by Condition 6.2j to determine the maximum product throughput for the squeegees.
- f. **Air knife system and combination squeegee and air knife system parameter:** If an air knife system or a combination squeegee and air knife system is used to comply, records of the determination of the proper operating parameter and parameter value for the air knife system.

- 7.2 Specific Recordkeeping for Control Requirements** For each batch vapor or in-line solvent cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must maintain the following records either in electronic or written form for a period of five (5) years.
- a. **Monitoring results:** The results of control device monitoring required under Condition 6.2.
 - b. **Actions taken to comply with monitoring requirements:** Information on the actions taken to comply with Condition 6.2. This information must 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.
 - c. **Annual solvent consumption:** Estimates of annual solvent consumption for each solvent cleaning machine.
 - d. **Carbon adsorber monitoring:** If a carbon adsorber is used to comply, records of the date and results of the weekly measurement of the halogenated HAP solvent concentration in the carbon adsorber exhaust required in Condition 6.2g.v.
- 7.3 Recordkeeping for Overall Emission Limit** For each batch vapor or in-line solvent cleaning machine complying with the overall emission limit in Condition 3.2b.ii, the permittee must maintain the following records either in electronic or written form for a period of five (5) years.
- a. **Solvent addition:** The dates and amounts of solvent that are added to the solvent cleaning machine.
 - b. **Solvent removal:** The solvent composition of wastes removed from cleaning machines as determined using the procedure described in Condition 6.1c.
 - c. **Emission calculations** Calculation sheets showing how monthly emissions and the rolling 3-month average emissions from the solvent cleaning machine were determined, and the results of all calculations.
 - d. **Cleaning capacity:** For each solvent cleaning machine without a solvent/air, the permittee must maintain records on the method used to determine the cleaning capacity of the cleaning machine.
- 7.4 Recordkeeping for overall control system efficiency** For each continuous web or remote reservoir continuous web cleaning machine complying with the overall control system efficiency in Condition 3.2b.iii, the permittee must maintain the following records in either electronic or written form for a period

of five (5) years.

- a. **Solvent addition:** The dates and amounts of solvent that are added to the solvent cleaning machine.
- b. **Solvent recovery:** The dates and amounts of solvent that are recovered from the desorption of the carbon adsorber system.
- c. **Solvent removal:** The solvent composition of wastes removed from each cleaning machine as determined using the procedures in Condition 6.1c.
- d. **Emission calculations:** Calculation sheets showing the calculation and results of determining the overall cleaning system control efficiency.

7.5 Recordkeeping for Facility-Wide Perchloroethylene Emission Limit

The permittee must maintain the following records either in electronic or written form for a period of 5 years. For purposes of this condition, “each solvent cleaning machine” means each solvent cleaning machine using perchloroethylene.

- a. The dates and amounts of solvent that are added to each solvent cleaning machine.
- b. The solvent composition of wastes removed from each solvent cleaning machine as determined using the procedure described in Condition 6.6c.
- c. Calculation sheets showing how monthly perchloroethylene emissions and the 12-month rolling total emissions from each solvent cleaning machine were determined, and the results of all calculations.

7.6 VOC and HAP Emissions

The permittee must maintain the following records on a monthly basis:

- a. Types of VOC or HAP containing materials used
- b. Amount of each material used based on purchase records and inventories at the beginning and end of each calendar month. (gal.)
- c. Density of each type of material (lb/gal.)
- d. VOC fraction for each type of material (lb VOC/lb material)
- e. Individual HAP fraction for each type of material (lb HAP/lb material)
- f. Weight of VOC shipped offsite
- g. Weight of individual HAP shipped offsite

- 7.7 Complaint Log** The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.
- 7.8 Retention of Records** Unless otherwise specified, all records must be maintained on site for a period of five years and made available to the Department upon request.

8.0 REPORTING REQUIREMENTS

- 8.1 Initial Notification of Affected Facility** For each new halogenated solvent cleaning machine, the permittee must submit an initial notification as soon as practicable before the construction or reconstruction is planned to commence.
- 8.2 Initial Notification for Facility-Wide Perchloroethylene Emission Limit** The permittee must submit an initial notification report to the Department no later than May 3, 2010. This report must include the following information:
- The name and address of the permittee.
 - The address (i.e., physical location) of the solvent cleaning machine(s).
 - A brief description of each solvent cleaning machine at the facility including machine type (batch vapor, vapor in-line or cold inline), solvent/air interface area, and existing controls.
 - The date of installation for each solvent cleaning machine.
 - An estimate of annual halogenated HAP solvent consumption for each solvent cleaning machine.
- 8.3 Initial Statement of Compliance**
- Control Requirements Compliance Option:** For each new solvent cleaning machine complying with the control requirements in Condition 3.2b.i, the permittee must submit an initial statement of compliance. This report must be submitted no later than 150 days after startup.
 - Overall Emission Limits Compliance Option:** For each new solvent cleaning machine complying with the overall emission limits in Condition 3.2b.ii, the permittee must submit an initial statement of compliance. This report must be submitted no later than 150 days after startup.
 - Overall Control System Efficiency Compliance Option:** For each new solvent cleaning machine complying with

the overall control system efficiency in Condition 3.2b.iii, the permittee must submit an initial statement of compliance. This report must be submitted no later than 150 days after startup.

- 8.4 Initial Statement of Compliance for the Facility-Wide Perchloroethylene Emission Limit** The permittee must submit to the Department an initial statement of compliance on or before May 3, 2010. The statement must include the following information.
- a. The name and address of the owner or operator of the affected facility.
 - b. The address (i.e., physical location) of each solvent cleaning machine that is part of an affected facility.
 - c. The results of the first 12-month rolling total perchloroethylene emissions calculation.
- 8.5 Compliance Report** For each new batch cold solvent cleaning machine, the permittee must submit a compliance report no later than 150 days after startup.
- 8.6 Annual Report for Batch Vapor or In-line Solvent Cleaning Machine** For each batch vapor or in-line solvent cleaning machine complying with the provisions of Conditions 3.2b.i, the permittee must submit to the Department an annual report by February 15 for the previous calendar year.
- 8.7 Solvent Emission Report for Overall Emission Limit** For each batch vapor or in-line solvent cleaning machine complying with the overall emission limit in Condition 3.2b.ii, the permittee must submit a solvent emission report every year.
- 8.8 Solvent Emission Report for the Facility-Wide Perchloroethylene Emission Limit** The permittee must submit a solvent emission report every year. This solvent emission report must contain the following requirements.
- a. The average monthly perchloroethylene solvent consumption for the affected facility in kilograms per month.
 - b. The 12-month rolling total perchloroethylene solvent emission estimates calculated each month using the method as described in Condition 6.6.
 - c. This report can be combined with the annual report required in Conditions 8.6 and 8.7 into a single report for the facility.
- 8.9 Control Efficiency Report** For each continuous web or remote reservoir continuous web solvent cleaning machine complying with the overall control system efficiency in Condition 3.2b.iii, the permittee must submit a control efficiency report every year.
- 8.10 Annual Report** The permittee must submit to the Department by February 15 of

each year this permit is in effect, two (2) copies of the following information for the previous calendar year:

- a. Emissions data:
 - i. VOC emissions (tons per year)
 - ii. Individual HAP emissions (tons per year)
 - iii. Total HAP emissions (tons per year)
- b. Records of all planned and unplanned excess emissions events.
- c. Summary of complaints relating to air quality received by permittee during the year.
- d. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions.
- e. List major maintenance performed on pollution control equipment.

8.11 Exceedance Report

For each batch vapor or in-line solvent cleaning machine, the permittee must submit an exceedance report semiannually except when, determined on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source or, an exceedance occurs. Once an exceedance has occurred the permittee must follow a quarterly reporting format until a request to reduce reporting frequency under Condition 8.12 is approved. Exceedance reports must be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate.

8.12 Exceedance Reporting Frequency Reduction

The permittee may reduce the frequency of the exceedance reporting required in Condition 8.11 to semiannual if the following conditions are met:

- a. The permittee has demonstrated a full year of compliance without an exceedance.
- b. The permittee continues to comply with all relevant recordkeeping and monitoring requirements specified in this permit.
- c. The Administrator of the EPA does not object to a reduced frequency of reporting for the affected source.

8.13 Equivalency Determination Request

For each new solvent cleaning machine requesting an equivalency determination, as described in 40 CFR 63.469, the permittee must submit an equivalency request report to the Administrator of EPA. This report must be submitted and approved by the Administrator

prior to startup.

- 8.14 Notice of Change of Ownership or Company Name** The permittee must notify the Department in writing using a Departmental “Permit Application Form” within 60 days after the following:
- a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or
 - b. Sale or exchange of the activity or facility.
- 8.15 Where to Send Reports and Notices** The reports, with the permit number prominently displayed, must be sent to the Permit Coordinator for the region where the source is located as identified in Condition 9.2.

9.0 ADMINISTRATIVE REQUIREMENTS

- 9.1 Reassignment to the General Permit** A complete application for reassignment to this permit is due within 60 days after the permit is reissued. The Department will notify the permittee when the permit is reissued. The application must be sent to the appropriate regional office.
- a. If the Department is delinquent in renewing the permit, the existing permit will remain in effect and the permittee must comply with the conditions of the permit until such time that the permit is reissued and the source is reassigned to the permit.
 - b. The permittee may submit an application for either a Simple or Standard ACDP at any time, but the permittee must continue to comply with the General ACDP until the Department takes final action on the Simple or Standard ACDP application.
 - c. If a complete application for reassignment to the general permit or Simple or Standard ACDP is filed with the Department in a timely manner, the permit will not be deemed to expire until final action has been taken on the application.
- 9.2 Permit Coordinator Addresses** All reports, notices, and applications should be directed to the Permit Coordinator for the area where the source is located. The Permit Coordinator addresses are as follows:

Counties	Permit Coordinator Address and Telephone
Clackamas, Clatsop, Columbia, Multnomah, Tillamook, and Washington	Department of Environmental Quality Northwest Region 2020 SW 4th Avenue, Suite 400 Portland, OR 97201-4987 Telephone: (503) 229-5582
Benton, Coos, Curry, Douglas, Jackson, Josephine, Lincoln, Linn, Marion, Polk, and Yamhill	Department of Environmental Quality Western Region 750 Front Street NE, Suite 120 Salem, OR 97301-1039 Telephone: (503) 378-5305
Baker, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco, Wheeler	Department of Environmental Quality Eastern Region 475 NE Bellevue, Suite 110 Bend, OR 97701 Telephone: (541) 633-2021

9.3 Department Contacts

Information about air quality permits and the Department’s regulations may be obtained from the DEQ web page at www.deq.state.or.us. All inquiries about this permit should be directed to the regional office for the area where the source is located. The Department’s regional offices are as follows:

Counties	Office Address and Telephone
Clackamas, Clatsop, Columbia, Multnomah, Tillamook, and Washington	Department of Environmental Quality Portland Office 2020 SW 4th Avenue, Suite 400 Portland, OR 97201-4987 Telephone: (503) 229-5554
Benton, Lincoln, Linn, Marion, Polk, and Yamhill	Department of Environmental Quality Salem Office 750 Front Street NE, Suite 120 Salem, OR 97301-1039 Telephone: (503) 378-8240
Coos, Curry, and Western Douglas	Department of Environmental Quality Coos Bay Office 340 N Front Street Coos Bay, OR 97420-2325 Telephone: (541) 269-2721
Eastern Douglas, Jackson, and Josephine	Department of Environmental Quality Medford Office 201 W Main Street, Suite 2-D Medford, OR 97501-2744 Telephone: (541) 776-6010

Counties	Office Address and Telephone
Crook, Deschutes, Harney, Hood River, Jefferson, Klamath, Lake, Sherman, Wasco, and Wheeler	Department of Environmental Quality Bend Office 475 NE Bellevue, Suite 110 Bend, OR 97701 Telephone: (541) 388-6146

10.0 FEES

- 10.1 Annual Compliance Fee** The Annual Compliance Determination Fee specified in OAR 340-216-0090, Table 2, Part 2(c) for a Class Two General ACDP is due on December 1 of each year this permit is in effect. An invoice indicating the amount, as determined by Department regulations, will be mailed prior to the above date.
- 10.2 Change of Ownership or Company Name Fee** The non-technical permit modification fee specified in OAR 340-216-0090, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company of a source assigned to this permit.
- 10.3 Where to Submit Fees** Fees must be submitted to:
 Department of Environmental Quality
 Business Office
 811 SW Sixth Avenue
 Portland, Oregon 97204-1390

11.0 GENERAL CONDITIONS AND DISCLAIMERS

- 11.1 Other Regulations** In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by the Department.
- 11.2 Conflicting Conditions** In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.
- 11.3 Masking of Emissions** The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement.
- 11.4 Department Access** The permittee must allow the Department's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary

functions related to this permit in accordance with ORS 468-095.

- 11.5 Permit Availability** The permittee must have a copy of the permit available at the facility at all times.
- 11.6 Open Burning** The permittee may not conduct any open burning except as allowed by OAR 340 Division 264.
- 11.7 Asbestos** The permittee must comply with the asbestos abatement requirements in OAR 340, Division 248 for all activities involving asbestos-containing materials, including, but not limit to, demolition, renovation, repair, construction, and maintenance.
- 11.8 Property Rights** The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
- 11.9 Termination, Revocation, or Modification** The Commission may modify or revoke this permit pursuant to OAR 340-216-0060(3) and (4).

12.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

- Affected Source** Each solvent cleaning machine that uses any solvent containing halogenated HAP solvents, at a total concentration greater than 5%, to remove soils from the surfaces of materials. Buckets, pails and beakers with capacities of 2 gallons or less, are not considered solvent cleaning machines.
- Air Blanket** The layer of air inside the freeboard located above the air/solvent interface.
- Air Knife** A device that directs forced air at high pressure, high volume, or a combination of high pressure and high volume, through a small opening directly at the surface of a continuous web part. The purpose of this system is to remove the solvent film from the surfaces of the continuous web part.
- Batch Cleaning Machine** A solvent cleaning machine in which individual parts or a set of parts move through the entire cleaning cycle before new parts are introduced into the machine.
- Cold Cleaning Machine** Machines that use unheated or heated, non-boiling liquid solvents to remove soils from the surface of parts.
- Combination Squeegee and Air-knife** A system consisting of a combination of a squeegee system and an air-knife system within a single enclosure.
- Continuous Web** A solvent cleaning machine in which parts such as film, coils,

Cleaning Machine	wire and metal strips are cleaned at speeds typically in excess of 11 feet per minute. Parts are generally uncoiled, cleaned such that the same part is simultaneously entering and exiting the solvent application area of the solvent cleaning machine, and then recoiled or cut. All continuous web cleaning machines are considered to be a subset of in-line solvent cleaning machines.
Deposition	Emissions from an air pollutant source which are deposited upon the property of another.
Dwell	The technique of holding parts within the freeboard area but above the vapor zone in the machine. Dwell occurs after cleaning to allow solvent to drain from the part or parts baskets back into the machine.
Existing Source	Any affected source that is not a new source.
Freeboard Area	The area within the cleaning machine that extends from the solvent/air interface to the top of the cleaning machine.
Freeboard Height	The distance from the solvent/air interface, as measured during the idling mode to the top of the cleaning machine.
Freeboard Ratio	The ratio of the cleaning machine freeboard height to the smaller interior dimension (length, width, or diameter) of the solvent cleaning machine.
Freeboard Refrigeration Device	A set of secondary coils mounted in the freeboard area that carries a substance to provide a chilled air blanket above the solvent vapor. A primary condenser capable of meeting the requirements of 40 CFR 63.463(e)(2)(i) (see Table 4) is defined as both a freeboard refrigeration device and a primary condenser.
Fugitive Emissions	Discharges of air pollutants through doors, windows, or other uncontrolled exit points.
Halogenated HAP Solvent	Any solvent that contains methylene chloride, perchloroethylene, chloroform, 1,1,1-trichloroethane, trichloroethylene, or carbon tetrachloride.
Immersion Cold Cleaning Machine	A cold cleaning machine in which the parts are immersed in the solvent when being cleaned. A remote reservoir cold cleaning machine that is also an immersion cold cleaning machine is considered an immersion cold cleaning.
In-Line Cleaning Machine	A solvent cleaning machine that uses an automated parts handling system, typically a conveyor, to automatically provide a continuous supply of parts to be cleaned.
New Source	Any affected source that the construction or reconstruction of which is commenced after November 29, 1993.

Opacity	The degree to which an emission (smoke or dust) reduces transmission of light and obscures the view in the background.
Remote Cold Cleaning Machine	Any device in which liquid solvent is pumped to a sink-like work area that drains solvent back into an enclosed container while parts are being cleaned, allowing no solvent to pool in the work area.
Remote Reservoir Continuous Web Cleaning Machine	A continuous web cleaning machine in which there is no exposed solvent sump. In these units, the solvent is pumped from an enclosed chamber and is typically applied to the continuous web part through a nozzle or series of nozzles. That solvent then drains from the part and is collected and recycled through the machine, allowing no solvent to pool in the work or cleaning area.
Solvent/Air Interface	Vapor machine: the location of contact between the concentrated solvent vapor layer and the air; or mid-line height of the primary condenser coils. Cold machine: the location of contact between the liquid solvent and the air.
Solvent/Air Interface Area	Vapor machine: the surface area of the solvent vapor zone that is exposed to the air Cold machine: the surface area of the liquid solvent that is exposed to the air In-line machine: the total surface area of all the sumps.
Solvent Vapor Zone	The area from the solvent surface to the level that solvent vapor is condensed.
Squeegee System	A system that uses a series of pliable surfaces to remove the solvent film from the surfaces of the continuous web part. These pliable surfaces, called squeegees, are typically made of rubber or plastic media, and need to be periodically replaced to ensure continued proper function.
Superheated Part Technology	A system that is part of the continuous web process that heats the continuous web part either directly or indirectly to a temperature above the boiling point of the cleaning solvent. This could include a process step, such as a tooling die that heats the part as it is processed, as long as the part remains superheated through the cleaning machine.
Superheated Vapor System	A system using solvent heated past the boiling point to evaporate liquid solvent on cleaned parts prior to exiting the machine.
Vapor Cleaning Machine	A batch or in-line solvent cleaning machine that boils liquid solvent generating solvent vapor that is used as part of the cleaning or drying cycle.

ACDP	Air Contaminant Discharge Permit	NSR	New Source Review
		O ₂	oxygen
ASTM	American Society for Testing and Materials	OAR	Oregon Administrative Rules
AQMA	Air Quality Maintenance Area	ORS	Oregon Revised Statutes
bbl	barrel (42 gal)	O&M	operation and maintenance
calendar year	The 12-month period beginning January 1st and ending December 31st	Pb	lead
CFR	Code of Federal Regulations	PCD	pollution control device
CO	carbon monoxide	PM	particulate matter
date	mm/dd/yy	PM ₁₀	particulate matter less than 10 microns in size
DEQ	Oregon Department of Environmental Quality	ppm	part per million
dscf	dry standard cubic foot	ppmv	part per million by volume
EPA	US Environmental Protection Agency	PSD	Prevention of Significant Deterioration
FCAA	Federal Clean Air Act	PSEL	Plant Site Emission Limit
gal	gallon(s)	PTE	Potential to Emit
gr/dscf	grains per dry standard cubic foot	RACT	Reasonably Available Control Technology
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	scf	standard cubic foot
ID	identification number	SER	Significant Emission Rate
I&M	inspection and maintenance	SERP	Source Emission Reduction Plan
lb	pound(s)	SIC	Standard Industrial Code
MMBtu	million British thermal units	SIP	State Implementation Plan
NA	not applicable	SO ₂	sulfur dioxide
NESHAP	National Emissions Standards for Hazardous Air Pollutants	Special Control Area	as defined in OAR 340-204-0070
NO _x	nitrogen oxides	VE	visible emissions
NSPS	New Source Performance Standard	VOC	volatile organic compound
		year	A period consisting of any 12-consecutive calendar months

13.0 ATTACHMENT 1: CONTROL COMBINATION OPTIONS for Batch Vapor, In-Line, and Remote Reservoir Continuous Web Cleaning Machines

Cleaning Machine Type	Option	Working Mode Cover	1.0 Freeboard Ratio	Super Heated Vapor	Freeboard Refrigeration Device	Reduced Room Draft	Carbon Adsorber	Dwell	Super Heated Parts
Batch Vapor Cleaning Machine ≤ 1.21 m ² [≤ 13 ft ²]	1	X	X	X					
	2			X	X				
	3	X			X				
	4		X	X		X			
	5				X	X			
	6		X		X				
	7				X			X	
	8		X			X		X	
	9				X		X		
	10		X	X			X		
Batch Vapor Cleaning Machine > 1.21 m ² [> 13 ft ²]	1		X	X	X				
	2				X	X		X	
	3	X		X	X				
	4		X	X		X			
	5			X	X	X			
	6		X		X	X			
	7				X	X		X	
In-Line - Existing	1		X	X					
	2		X		X				
	3				X			X	
	4						X	X	
In-Line - New	1			X	X				
	2				X		X		
	3			X			X		
Continuous Web -Existing	1		X						X
	2		X	X					
	3		X		X				
	4						X		
Continuous Web - New	1			X	X				
	2				X				X
	3				X		X		
	4			X			X		
	5						X		X
Remote Reservoir Web - Continuous	1		X						X
	2		X	X					
	3		X		X				
	4						X		
Remote Reservoir Web - New	1			X					
	2								X
	3						X		

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