Part VI. Generally Applicable Individual Source Requirements for Existing and New Sources

Section 1.0 Visible Emissions

1.0 Applicability
2.0 Definitions
3.0 Limitations and Standards
   3.1 Opacity Limitations
   3.2 Exceptions
4.0 Compliance and Test Methods
   4.1 Compliance Determination – Opacity
   4.2 Test Methods – Opacity of Visible Emissions from Intermittent Sources

1.0 APPLICABILITY

This Section applies to visible emissions resulting from the discharge of any air contaminant into the ambient air within the exterior boundaries of the Gila River Indian Community.

2.0 DEFINITIONS

“Intermittent Source” means a source which causes or discharges visible emissions for a duration of less than 6 consecutive minutes.

“Opacity” means a condition of the ambient air, or any part thereof, in which an air contaminant partially or wholly obscures the view of an observer.

“Percent Opacity” means the degree to which an effluent plume or any other emission of air contaminants obscures the transmission of light expressed as a percentage.

“Shutdown” means the cessation of operation of any air pollution control equipment and/or process equipment for any purpose, except routine phasing in of process equipment.

Start-up” means the setting into operation of any air pollution control equipment and/or process equipment for any purpose, except routine cycling of process equipment.

“Visible Emissions” means any emissions which are visually detectable without the aid of instruments and which contain particulate matter.

“Uncombined Water” means condensed water containing no more than analytical trace amounts of other chemical elements or compounds.

3.0 LIMITATIONS AND STANDARDS
3.1 **Opacity Limitations.** No person shall discharge into the ambient air from any single source of emissions, any air contaminant, other than uncombined water, in excess of twenty (20) percent opacity.

3.2 **Exceptions.**

A. **Charging Electric Arc Furnaces.** When charging or back-charging any electric arc furnace for which construction commenced prior to February 2, 1963, a person may discharge air contaminants, other than uncombined water, in excess of the applicable opacity limit in subsection 3.1 for no more than an aggregate of three (3) minutes in any forty-five (45) minute period; however, visible emissions resulting from such discharge of air contaminants shall not exceed forty (40) percent opacity.

B. **Firing of Ordnance at Test Facilities.** Visible emissions exceeding the opacity standards for short periods of time resulting from firing test rounds in enclosed bunkers at ordnance test facilities which do not exceed six (6) minutes in length shall not constitute a violation of this Section.

C. **Opacity Training.** Equipment or processes used to train individuals in opacity observations shall be exempt from opacity standards during the preparation for and during the actual training sessions.

4.0 **COMPLIANCE AND TEST METHODS**

4.1 **Compliance Determination – Opacity.** Opacity shall be determined by observations of visible emissions conducted in accordance with EPA Test Method 9, 40 C.F.R. Part 60, Appendix A, except as provided in subsection 4.2 of this Section.

4.2 **Test Methods - Opacity of Visible Emissions from Intermittent Sources.** Opacity of visible emissions from intermittent sources shall be determined by observations of visible emissions conducted in accordance with EPA Test Method 9, 40 C.F.R. Part 60, Appendix A, except that at least twelve (12) rather than twenty-four (24) consecutive readings shall be required at 15-second intervals for the averaging time.
### Part VI. Generally Applicable Individual Source Requirements for Existing and New Sources

#### Section 2.0 VOC Usage, Storage And Handling

**1.0 Applicability**

1.1 General Applicability

1.2 Exemptions

#### 2.0 Definitions

#### 3.0 Limitations and Standards

3.1 Operations Involving Heat

3.2 Non-complying Solvents

3.3 Process Lines

3.4 Required Emissions Reductions

3.5 VOC Containment and Disposal

#### 4.0 Requirements for Handling, Storage and Disposal of Materials Containing VOCs

4.1 General Operating Requirements

4.2 Specifications for Storage of VOCs

4.3 Specifications for Loading of VOC

4.4 Monitoring and Inspection Requirements for VOC Storage and Transfer

#### 5.0 General Administrative Requirements

5.1 Operation and Maintenance Plan

5.2 Providing and Maintaining Monitoring Devices

5.3 Recordkeeping and Recording

#### 6.0 Compliance Determination and Test Methods

6.1 Determination of Compliance

6.2 Test Methods

### 1.0 APPLICABILITY

**1.1 General Applicability.** The provisions of this Section apply to each operation involving the usage and storage of volatile organic compounds (VOCs) that is not otherwise specifically covered in other sections of these Parts. In addition, these provisions apply to the transfer of VOC-containing liquids having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual loading conditions.

**1.2 Exemptions.** The provisions of this Section shall not apply to:

A. Organic solvent manufacturing facilities and the overland transport of organic solvents and materials containing any VOC.
B. The spraying or other employment of insecticides, pesticides, or herbicides.

C. Foundries; smelters; melting or roasting of metal, ore, or dross; all operations included under Standard Industrial Classifications (SIC) codes 3312, 3313, 332, 333, 334, 336, and 3398, and/or the corresponding North American Classification System (NAICS) code; and all on-site mold making activities at such operations and industries.

D. Any other VOC source category specifically regulated under this Ordinance.

2.0 DEFINITIONS

“Adhesive” means a material used for the primary purpose of bonding two or more surfaces together.

“Bulk Plant” means any loading facility at which gasoline and/or other organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under any actual storage conditions are received from delivery vessels for storage in on-site stationary tanks, and from which such liquids also are transferred to delivery vessels.

“Day” means a period of twenty-four (24) consecutive hours beginning at midnight.

“External Floating Roof” means a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank wall.

“Excess Organic Liquid Drainage” means more than ten (10) milliliters (0.34 fluid ounces) per disconnect of a liquid fill line.

“Liquid Leak” means that state or condition in which an organic liquid is allowed to seep or drip, or otherwise enters or escapes, at either three (3) or more drops per minute or a puddle of organic liquid greater than one (1) square inch.

“Loading Facility” means any operation or facility including, but not limited to, a gasoline storage tank farm, pipeline terminal, bulk plant, or loading dock or combination thereof, where organic liquids are transferred or loaded into or out of delivery vessels for future distribution. Included are all related pollutant-emitting activities which are located on one or more contiguous or adjacent properties, and are under the control of the same person or persons under common control.

“Makeup Solvent” means the increment of cleaning-solvent that replaces solvent lost
through evaporation or other means, and that is added to the solvent remaining in a cleaning machine to bring the solvent quantity to the desired level.

“No detectable organic emissions” means no escape of organics to the atmosphere with a VOC concentration exceeding 10,000 ppmv.

“Non-Complying Solvent” means a solvent that exceeds the applicable percentage composition limit for any of the following four chemical groupings:

- Group I: One or more of the following families of compounds having the olefinic or cyclo-olefinic type of unsaturation - hydrocarbons, alcohols, aldehydes, esters, ethers, and/or ketones; except perchloroethylene: five (5) percent by volume.
- Group II: One or more aromatic compounds having eight or more carbon atoms to the molecule except ethylbenzene, methyl benzoate, and phenylacetate: eight (8) percent by volume.
- Group III: One or more of the following compounds and compound types - ketones having a branched hydrocarbon structure, ethylbenzene, trichloroethylene, and/or toluene: twenty (20) percent by volume.
- An aggregate of any combination of the above three groups: twenty (20) percent by volume.

Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered a member of the most reactive chemical group that it can be classified into, that is, that group having the lowest percentage composition limit.

“Non-Precursor Organic Compound” means any of the following organic compounds which have been designated by the EPA as having negligible photochemical reactivity: methane; ethane; methane chloride (dichloromethane); 1,1,1-trichloroethane; trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (CFC-22); 1,1,2-trichlorotrifluoroethane (CFC-113); 1,2-dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); trifluoromethane (FC-23); 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); 1,1-dichloro-1,1,1-trifluoroethane (HCFC-141b); 1-chloro-1,1-difluoroethane (HCFC-142b); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134a); 1,1,1,2-tetrafluoroethane (HFC-134b); 1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); all completely fluorinated, completely saturated: alkanes, ethers and tertiary amines.
“Organic Compound” means any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, carbonates, and metallic carbides.

“Organic Liquids” means all precursor organic compounds which contain hydrogen and which would exist as liquids at standard conditions of use or storage.

“Organic Solvent” means any organic compound which is liquid at standard conditions of use or storage and which is used as a diluent, thinner, dissolver, viscosity reducer, extractant, cleaning agent or is a reactant or product in a manufacturing process.

“Organic Vapors” means all precursor organic compounds which contain hydrogen and which exist in a gaseous state at standard conditions of use or storage.

“Pipeline Terminal” means any primary distributing loading facility which receives in any consecutive 30-day period, by pipeline, over 600,000 gallons (2,271,180 l) of gasoline and/or other organic liquids with a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual storage conditions.

“PPMV” means parts per million by volume.

“Submerged Fill Pipe” means any fill pipe or discharge nozzle that meets any one of the following:

A. The bottom of the discharge pipe or nozzle is below the surface of the liquid in the receiving vessel for at least ninety-five (95) percent of the volume filled.

B. The bottom of the discharge pipe or nozzle is less than six (6) inches from the bottom of the receiving vessel.

C. The bottom of the discharge pipe or nozzle is less than two (2) pipe or nozzle diameters from the bottom of the receiving vessel.

D. For side-filling, the end of the discharge pipe or nozzle is totally submerged when the liquid level is eighteen (18) inches from the bottom of the tank.

“True Vapor Pressure” means absolute vapor pressure of a liquid at its existing temperature of storage and handling.

“Vapor” means the gaseous form of a substance normally occurring in a liquid or solid state.
“Vapor Leak” means that state or condition in which an organic vapor is allowed to seep or otherwise escape, such that when measured in accordance with subsection 4.3(C)(2)(c) results in detectable organic emissions above 10,000 ppmv.

“Vapor Loss Control System” means any piping, hoses, equipment, and devices which are used to collect, store, process and/or dispose of organic vapors at a pipeline terminal, bulk plant, service station or other operation handling gasoline and/or other organic liquids.

“Volatile Organic Compounds” or “(VOCs)” means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and is not exempt as a Non-Precursor Organic Compound.

(1) This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity: methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123); 1,1,1,2-tetrafluoroethane (HFC-134a); 1,1-dichloro 1-fluoroethane (HCFC-141b); 1-chloro 1,1-difluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes; acetone; perchloroethylene (tetrachloroethylene); 3,3-dichloro-1,1,2,2-pentafluoropropane (HCFC-225ca); 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb); 1,1,1,2,3,4,5,5,5-decafluoropentane (HFC 43–10mee); difluoromethane (HFC-32); ethylfluoride (HFC-161); 1,1,1,2,3,3-hexafluoropropane (HFC-236fa); 1,1,2,2,3-pentafluoropropane (HFC-245ca); 1,1,2,3,3-pentafluoropropane (HFC-245ea); 1,1,1,2,3-pentafluoropropane (HFC-245eb); 1,1,3,3-pentafluoropropane (HFC-245fa); 1,1,2,3,3-hexafluoropropane (HFC-236fa); 1,1,1,3,3-pentafluorobutane (HFC-365mfc); chlorofluoromethane (HCFC-31); 1 chloro-1-fluoroethane (HCFC-151a); 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a); 1,1,1,2,3,4,4,4-tetrafluoro-4-methoxybutane (C4F9OC2H5 or HFC-7100); 2-(difluoromethoxy)methyl)-1,1,2,3,3,3-heptafluoropropane (C3F7OCF2CH3); 1-ethoxy-1,1,2,3,3,4,4,4-tetrafluorobutane (C4F9OC2H5 or HFC-7200); 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane (C3F7OCF2CH3); methyl acetate, 1,1,1,2,3,3-heptafluoro-3-methoxy-propane (n-C3F7OC2H5, HFC-7000), 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500), 1,1,1,2,3,3-heptafluoropropane (HFC 227ea), and methyl formate (HCOOCH3), and perfluorocarbon compounds which fall into these classes:
(i) Cyclic, branched, or linear, completely fluorinated alkanes;
(ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
(iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
(iv) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

3.0 LIMITATIONS AND STANDARDS

3.1 Operations Involving Heat. No person shall discharge more than fifteen (15) pounds (6.8 kg) of VOCs into the atmosphere in any one day from any machine, equipment, device, or other article in which any VOC or any material containing a VOC comes into contact with flame or is evaporated at temperatures exceeding 200 degrees Fahrenheit (93.3 degrees Celsius), in the presence of oxygen, unless the entire amount of such discharge has been reduced in accordance with subsection 3.4 of this Section.

3.2 Non-Complying Solvents. No person shall discharge more than forty (40) pounds (18kg) of VOCs into the atmosphere in any one day from any machine, equipment, device, or other article for employing, applying, evaporating or drying any non-complying solvent, as defined by subsection 2.0 of this Section, or material containing such non-complying solvent unless the entire amount of such discharge has been reduced in accordance with subsection 3.4 of this Section.

3.3 Process Lines. Emissions of VOCs from any series of machines, equipment, devices or other articles which are designed for processing any item including, but not limited to, continuous web(s), strip(s), or wire(s) and which use operations described in subsections 3.1 or 3.2 of this Section shall be collectively subject to the limitations of and compliance with those subsections.

3.4 Required Emissions Reductions. Emissions to the atmosphere of VOCs requiring control pursuant to subsections 3.1 or 3.2 of this Section shall be reduced using at least one of the following methods:

A. Incineration, provided that ninety (90) percent or more of the carbon in the VOCs entering the incineration device is oxidized to carbon dioxide and overall control efficiency (capture plus processing) is at least eighty-five (85) percent by weight; or

B. Adsorption, provided that overall control efficiency (capture plus processing) is at least eighty-five (85) percent by weight; or
<table>
<thead>
<tr>
<th>GRIC Code – Title 17, Chapter 9</th>
<th>Gila River Indian Community Air Quality Management Program Part VI. Section 2.0 VOC Usage, Storage, and Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revised 2008 Air Quality Ordinance</strong></td>
<td>8/20/08 7 of 18</td>
</tr>
</tbody>
</table>

C. Using low VOC material containing no more than twenty (20) percent VOC by volume (as determined by the applicable test method(s) and excluding non-precursor organic compounds and water), provided that no VOC from the material comes into contact with flame; or

D. Processing in a manner not less effective than incineration or adsorption and verified by test methods set forth in subsection 6.2 of this Section.

### 3.5 VOC Containment and Disposal

No person shall store, discard, handle, or dispose of VOC or VOC-containing material in a way intended to cause or to allow the evaporation of VOC to the atmosphere. Reasonable measures shall be taken to prevent such evaporation which include, but are not limited to, the following:

A. All materials from which VOC can evaporate, including, but not limited to, fresh solvent, waste solvent and solvent-soaked rags and residues, shall be stored in closed containers when not in use;

B. Such containers one (1) gallon and larger shall be legibly labeled with their contents;

C. Records of the disposal/recovery of such materials shall be kept. Records of hazardous waste disposal shall be kept in accordance with the applicable hazardous waste disposal statutes and regulations; and

D. Any transfer of VOCs or VOC-containing material from one container to another (aggregation) shall be conducted in a manner that is consistent with good practice for minimizing VOC emissions.

### 4.0 REQUIREMENTS FOR HANDLING, STORAGE AND DISPOSAL OF MATERIALS CONTAINING VOCS

#### 4.1 General Operating Requirements

Any person subject to the requirements of this Section shall comply with the following operating requirements:

A. Control techniques and work practices shall be implemented at all times to reduce VOC emissions from fugitive sources. Control techniques and work practices include, but are not limited to:

1. Containers with no detectable organic emissions shall be used for the storage of waste or fresh material containing VOC.

2. Containers used for the storage or disposal of cloth, paper, filters, or other materials impregnated with VOC-containing materials shall be covered.
3. Waste solvent shall be disposed or recycled in accordance with applicable EPA regulations.

4. Any waste or fresh material containing VOC that escapes from a container, shall be cleaned up or otherwise removed immediately if in accessible areas. For areas where access is not feasible during normal production, any such VOC-containing material shall be removed as soon as reasonably possible, but not later than within twenty-four (24) hours.

B. Each container shall be clearly labeled with its contents.

C. No person shall use materials containing more than ten (10) percent VOC for the cleanup of spray equipment unless equipment is used to collect the cleaning compounds and to minimize their evaporation to the atmosphere.

D. Unless records show that VOC-containing materials were sent off-site for legal disposal, the Department will assume that the materials evaporated on-site.

4.2 Specifications for Storage of VOCs.

A. Storage Capacities More Than 40,000 Gallons. Each VOC storage tank or vessel with a capacity of more than 40,000 gallons shall be a pressure vessel capable of maintaining working pressures sufficient at all times to prevent VOC loss to the atmosphere or be designed and equipped with a permanent submerged fill pipe and one of the following Vapor Loss Control Systems:

1. An external floating roof that consists of a pontoon-type or double deck-type cover, or a fixed roof with an internal-floating cover. The cover shall rest on the surface of the liquid contents at all times (i.e., off the leg supports), except during initial fill, when the storage vessel is completely emptied or during refilling. When the cover is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. The floating roof shall be equipped with a closure seal, or seals, to close the space between the cover edge and vessel wall. Floating roofs shall not be used if the VOCs have a true vapor pressure of 11.1 psia (76.6 kPa) or greater under actual conditions.

2. A vapor-recovery system that consists of a vapor-gathering system capable of collecting ninety-five (95) percent or more of the
uncontrolled VOCs that would otherwise be emitted to the atmosphere and a vapor-disposal system capable of processing these VOCs to prevent their emission to the atmosphere.

3. Other equipment or methods that are of equal efficiency for purposes of air pollution control may be used if approved by the Department prior to installation.

B. Storage Capacities Between 250 and 40,000 Gallons. Each VOC storage vessel with a capacity greater than 250 gallons and up to 40,000 gallons shall: (1) be equipped with a permanent submerged fill pipe; (2) be a pressure vessel capable of maintaining working pressures that prevent the loss of VOC to the atmosphere; or (3) be equipped with a vapor-recovery system as described in subsection 4.2(A)(2) of this Section.

C. Exemptions. VOC storage vessels that are subject to the equipment standards set forth in 40 C.F.R. Part 60, Subparts K, Ka, and Kb are exempt from the specifications for storage of VOCs set forth in paragraphs (A) and (B) of subsection 4.2 of this Section.

4.3 **Specifications for Loading of VOC.**

A. Operating Requirements for Vapor Loss Control Systems. The owner or operator of a Vapor Loss Control System subject to this section shall operate the system and organic liquid transfer equipment as follows:

1. Loading shall be accomplished in a manner that prevents gauge pressure from exceeding eighteen (18) inches of water (33.6 mm Hg) and vacuum from exceeding six (6) inches of water (11.2 mm Hg) in the tank truck. Each owner or operator of a loading facility shall ensure that vapor recovery lines are connected between the delivery vessel and the storage tank during all organic liquid transfers.

2. Loading shall be accomplished in a manner that prevents overfills, liquid leaks or excess organic liquid drainage. Owners or operators of bulk plants or operators of delivery vessels shall observe all parts of the transfer and shall discontinue transfer if any leaks are observed. Measures shall be taken to prevent liquid leaks from the loading device when it is not in use, and to complete drainage before the loading device is disconnected. During loading or unloading operations, potential leak sources shall have no detectable organic emissions.
3. Loading operations which use a Vapor Loss Control System shall be accomplished in such a manner that the displaced vapor and air will be vented only to the Vapor Loss Control System, which shall be operated with no detectable organic emissions and in a manner such that the vapor processing capacity is not exceeded.

4. Diaphragms used in vapor storage tanks shall be maintained with no detectable organic emissions.

5. Vapor transfer lines shall be equipped with fittings that allow no detectable organic emissions and that automatically and immediately close upon disconnection. Vapor balance systems shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.

6. When loading of organic liquids is effected through the top hatches of a tank truck, trailer or railroad tank car with a loading arm equipped with a VAPOR collecting adaptor, a pneumatic, hydraulic or other mechanical means shall be provided to force a seal with no detectable organic emissions between the adaptor and the hatch. A means shall be provided to prevent organic liquid drainage from the loading device when it is removed from the hatch of any tank truck or trailer, or to accomplish complete drainage before such removal.

B. Equipment Maintenance and Operating Practices. All equipment associated with delivery and loading operations shall be maintained to be leak free, with no detectable organic emissions and in good working order. Organic liquids shall not be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation to the atmosphere. Purging of vapors is prohibited.

C. Equipment Leaks.

1. The owner or operator shall perform monthly inspections, while vapor is being transferred, for liquid and vapor leaks and for faulty equipment. In these monthly inspections detection methods incorporating sight, sound, smell and/or touch may be used.

a. A log book shall be used and shall be signed by the owner or operator at the completion of each monthly inspection for equipment leaks. A section of the log shall contain a list, summary description, or diagram(s) showing the location of all equipment at the facility.

8/20/08
b. Leak detection tests shall be conducted quarterly by the owner of each loading facility or by a consultant, at the expense of the owner. Testing shall be done according to procedures in subsection 6.0 of this Section, except that EPA Method 21 shall be used to test for leaks from a Vapor Loss Control System and its associated piping outside the loading area. Equipment shall conform to the specifications of those test methods cited in subsection 6.0 of this Section. At least twenty-four (24) hours prior to testing, the owner shall notify the Director of the date, time and location of the testing. The Director or his representatives shall at their discretion observe the tests.

2. Leak Detection Test Procedure. During loading into or unloading out of delivery vessels, the peripheries of all potential sources of leakage at the loading facility shall be checked with a combustible gas detector or organic vapor analyzer (OVA) as follows:

   a. Pressure. A pressure tap shall be placed in the loading facility’s Vapor Loss Control System, as close as possible to the delivery vessel’s tank. The pressure shall be recorded periodically during testing, at least once every minute. Instantaneous maximum pressure shall be recorded either automatically or by visual observation. A pressure measurement device capable of measuring twenty (20) inches (50.8 cm) of water pressure with a precision of 0.1 inch (2.5 mm) of water shall be calibrated. This device shall fit the tap and shall either be permanently installed or shall be kept available at all times at the facility.

   b. Calibration. Within four (4) hours prior to monitoring, the combustible gas detector or OVA shall be calibrated with 10,000 ppmv methane in accordance with EPA Test Method 21.

   c. Probe Distance. The probe inlet shall be one (1) inch (2.5 cm) or less from the potential leak source when searching for leaks. The probe inlet shall be one (1) inch (2.5 cm) from the leak source when the highest detector reading is being determined for a discovered leak. When the probe is obstructed from moving within one (1) inch (2.5 cm) of an actual or potential leak source, the closest practicable probe distance shall be used.

8/20/08
d. Probe Movement. The probe shall be moved slowly, not faster than 1.6 inches per second (4 centimeters per second). If there is any meter deflection at a potential or actual leak source, the probe shall be positioned to locate the point of highest meter response.

e. Probe Position. The probe inlet shall be positioned in the path of the vapor flow from a leak such that the central axis of the probe-tube inlet shall be positioned coaxial with the path of the most concentrated vapors.

f. Wind. Wind shall be blocked as much as possible from the space being monitored. The quarterly leak detection test required by subsection 4.3(C)(2) of this Section shall be valid only when wind speed in the space being monitored is five (5) mph or less.

g. Data Recording. The highest detector reading and location for each incidence of leakage shall be recorded along with the date and time.

D. Loading Facilities with Throughput Greater than 40,000 Gallons/Day. Each VOC loading facility with a throughput greater than 40,000 gallons/day from its aggregate loading pipes shall be equipped with a Vapor Loss Control System unless all tank trucks, trailers, or railroad tank cars are bottom loaded with hatches closed. The Vapor Loss Control System shall conform to the following requirements:

1. Vapor-Collection Portion of the System. When loading VOCs through the hatches of a tank truck, trailer, or railroad tank car, using a loading arm equipped with a vapor collecting adapter, a pneumatic, hydraulic, or mechanical means shall be provided to ensure a seal such that there are no detectable organic emissions between the adapter and the hatch. When loading is effected through means other than hatches, all loading and vapor lines shall be equipped with fittings that make connections with no detectable organic emissions and that must be closed when disconnected or that close automatically when disconnected.

2. Vapor-Disposal Portion of the System. The vapor-disposal portion of the system shall consist of: (1) a vapor-liquid absorber system with a minimum recovery efficiency of ninety-five (95) percent by weight of all the VOC vapors entering such disposal system; or (2) a variable-vapor space tank, compressor, and fuel-gas system of
E. Loading Facilities with Throughput Equal To or Less Than 40,000 Gallons/Day. Each loading pipe at a VOC loading facility with an aggregate throughput of 40,000 gallons/day or less shall be equipped with a system for submerged filling of tank trucks, trailers, or railroad tank cars that is installed and operated to maintain a ninety-seven (97) percent submerged factor. This applies to vessels with a capacity greater than two hundred (200) gallons.

F. Prevention of Spills and Leaks. Precautions must be made to prevent spills during the attachment and disconnection of filling lines or arms. No liquid or vapor leaks shall exist during loading or unloading operations. Inspection for visible liquid leaks, visible fumes, or odors resulting from VOC dispensing operations shall be conducted by the owner or operator of the VOC loading facility or the owner or operator of the tank truck, trailer, or railroad car pursuant to subsection 4.4 of this Section. VOC loading or unloading through the affected transfer lines shall be discontinued immediately once a leak is observed and shall not resume until the observed leak is repaired.

G. Exemptions. Loading facilities subject to the requirements of 40 C.F.R. Part 60, Subpart XX or 40 C.F.R. Part 63, Subpart R are exempt from complying with the specifications for loading of VOCs set forth in paragraphs (A), (B), and (C) of subsection 4.3 of this Section.

4.4 Monitoring and Inspection Requirements for VOC Storage and Transfer.

A. Loading Facility Inspections. The owner or operator of a loading facility subject to this Section shall perform routine inspections of each loading rack handling VOCs for vapor leaks or liquid leaks and the Vapor Loss Control System, if applicable, using one of the following inspection schedules:

1. Monthly inspections, if sight, sound, and smell are used as detection methods;

2. Quarterly inspections, if an organic vapor analyzer is used to monitor for vapor leaks.

B. If a leak is detected during such inspection, the leak shall be repaired or the equipment replaced within seventy-two (72) hours. The owner or
operator shall re-inspect the repaired leak or replaced equipment the first time after the repair or replacement that the equipment is operated.

C. Floating Roof Tank Inspections. The owner or operator of any floating roof tank subject to this Section shall:

1. Inspect the tank and seals at least once every six (6) months to determine ongoing compliance with both the applicable standards of this Section and any permit conditions pertaining to the tank. Floating roof tanks shall have no visible holes, tears, or other openings in the seal or in any seal fabric.

2. For external floating roofs, determinations of secondary seal gap area may be made only once per year.

D. Storage Tank Gauging Devices. All storage tank gauging devices, anti-rotation devices, accesses, seals, hatches, roof drainage systems, support structures, and pressure relief valves shall be maintained and operated with no detectable organic emissions except when opened, actuated, or used for necessary and proper activities. Such opening, actuation, or use shall be limited so as to minimize vapor loss.

5.0 GENERAL ADMINISTRATIVE REQUIREMENTS

5.1 Operation and Maintenance Plan. Any owner or operator using an emissions control system to reduce emissions in accordance with this Section shall provide to the Department for approval an Operation and Maintenance Plan ("O&M Plan") at the time the initial permit application is submitted to the Department for an operating permit. The O&M Plan shall specify key system operating parameters, such as temperatures, pressures and/or flow rates, necessary to determine compliance with this Section and describe in detail procedures to maintain the approved emission control system. The Department's written approval of the O&M Plan shall be required in order to comply with this subsection.

5.2 Providing and Maintaining Monitoring Devices. Any person incinerating, adsorbing, or otherwise processing organic materials pursuant to this Section shall provide, properly install and maintain in calibration, in good working order, and in operation, devices specified in the O&M Plan as well as in either the Permit to Operate or the Installation Permit for indicating temperatures, pressures, rates of flow, or other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained.

5.3 Recordkeeping and Recording.
A. General Recordkeeping Requirements. Any person subject to this Section shall comply with the following recordkeeping requirements. Records shall be retained for five (5) years and shall be made available to the Department upon request.

1. Current Lists. Maintain a current list of coatings, adhesives, makeup solvents, and any other VOC-containing materials. Such lists shall state the VOC content in pounds per gallon or grams per liter. The VOC content shall be expressed less water and non-precursor organic compounds for materials that are not used for cleaning or cleanup.

2. Monthly Usage Records. Maintain monthly records of the amount of each coating; adhesive; makeup solvent; solvent used for surface preparation, for cleanup, and for the removal of materials, and any other VOC-containing material used or processed. Such records shall identify any materials subject to the emission limits in subsections 3.1 and 3.2 of this Section and shall maintain separate totals for these materials.

3. Operation and Maintenance Records. Maintain a continuous record of the times an approved emissions control device is used to comply with this Section. Maintain daily records of the O&M Plan’s key system operating parameters, and account for any periods of operation when the control device was not operating. Maintain records of all maintenance performed according to the O&M Plan.

4. Records of Discarded Materials. Maintain records of the type, amount, and method of disposing or recycling of VOC-containing materials on each day of disposal.

B. Recordkeeping Requirements for VOC Storage and Transfer.

1. Storage Records. For tanks subject to the VOC storage and transfer specifications, maintain accurate records of the liquids stored in such tanks including either the true or Reid vapor pressure ranges of each stored liquid. The Director may approve an alternative recordkeeping requirement if appropriate for the operational characteristics of an individual tank.

2. Loading Facility Records. For facilities subject to the loading requirements set forth in subsection 4.3 of this Section, maintain a daily record of the total throughput of VOC loaded at the facility.
and the number of delivery vessels loaded at the facility and the quantity and type of VOC loaded.

3. Inspection Records. Maintain records of the results of inspections required by this Section including a record of any leaks found at the facility and the corrective action taken.

4. Vapor Loss Control System Records.
   a. Maintain daily measurements of the exhaust gas temperature immediately downstream of a direct flame incinerator;
   b. Maintain daily measurements of the inlet and outlet gas temperature of a chiller or catalytic incinerator;
   c. Maintain records of the results of monitoring outlet VOC concentration of a carbon adsorption bed to detect breakthrough; or
   d. Maintain records of the operational parameters for any other Vapor Loss Control System in accordance with the requirements of an O&M Plan approved by the Department.

5. Maintenance and Repair Records. Maintain records of the date and reason for any maintenance and repair of any applicable control devices and the estimated quantity and duration of VOC emissions during such activities.

6. Performance Test Records. Maintain records of the results of any performance testing conducted as required by this Section.

6.0 COMPLIANCE DETERMINATION AND TEST METHODS

6.1 Determination of Compliance. Determination of the organic solvent content and composition of a solvent or material shall be made as of the time that the solvent or material is in its final form for application or employment, notwithstanding any prior blending, reducing, thinning or other preparation for application or employment. Emissions resulting from air or heat drying of products for the first twelve (12) hours after the removal from any machine, equipment, device or other article shall be included in determining compliance with this Section.

6.2 Test Methods.
A. Generally Applicable Test Methods.

1. Measurement of VOC content of materials shall be conducted and reported in accordance with Test Method 24 (40 C.F.R. Part 60, Appendix A).


3. Measurement of VOC emissions subject to this Section shall be conducted in accordance with EPA Test Method 18 and/or by EPA Test Method 25 or an applicable submethod of Method 25 (40 C.F.R. Part 60, Appendix A), in combination with the appropriate capture efficiency method.


5. Ventilation/draft rates shall be determined by EPA Test Methods 2, 2a, 2c, and 2d (40 C.F.R. Part 60, Appendix A).

6. Temperature measurements shall be done with an instrument with an accuracy and precision of less than one-half degree Fahrenheit (25 degrees Celsius) for temperatures up to 480 degrees Fahrenheit (250 degrees Celsius). Higher temperatures shall be determined by instruments no less accurate than 1.0 percent of full scale unless the Department specifies greater accuracy.

B. Test Methods Specific to VOC Storage and Transfer.

1. EPA Test Methods 1-4 (40 C.F.R. Part 60, Appendix A) for determining flow rates, as necessary;

2. EPA Test Method 18 (40 C.F.R. Part 60, Appendix A) for determining gaseous organic compound emissions by gas chromatography;

3. Vapor Loss Control System. Control efficiency of a Vapor Loss Control System shall be determined according to EPA Test
Method 25A or Method 25B subsequent to the Department’s approval of test protocol. Leak tests to verify there are no detectable organic emissions from the equipment associated with the Vapor Loss Control System, including the piping outside of the loading area, shall be conducted according to EPA Test Method 21;

4. True Vapor Pressure. True vapor pressure shall be determined by ASTM Method 2879-97 and by temperature measurement under actual conditions using an instrument accurate to within ±1 degree Fahrenheit (± 0.5 degrees Celsius). For purposes of recording and reporting, the Reid vapor pressure and the foregoing temperature determination may be used in conjunction with the method of American Petroleum Institute Bulletin 2517, February 1980, to determine true vapor pressure, unless the Department specifies ASTM Method 2879-97;

5. Reid Vapor Pressure. Reid vapor pressure shall be determined by ASTM Method D323-94 or by ASTM Method D-5191;

6. Detectable vapor loss from all storage tank gauging devices, anti-rotation devices, accesses, seals, hatches, roof drainage systems, support structures, and pressure relief valves shall be determined visually, by touch, by presence of odor, or by using a portable hydrocarbon analyzer. Testing and calibration procedures to determine compliance shall be consistent with EPA Test Method 21, set forth in 40 C.F.R. Part 60, Appendix A.

7. An alternative test method may be substituted for any of the test methods prescribed in paragraphs A and B of this subsection 6.2 of this Section if such alternative test method is approved in advance and in writing by the Administrator.
Part VI – Generally Applicable Individual Source Requirements For Existing and New Sources

Section 3.0 Degreasing and Solvent Metal Cleaning

1.0 APPLICABILITY

1.1 General Applicability. The provisions of this Section shall apply to all new and existing solvent cleaning operations using volatile organic compounds for solvent cleaning. Other standards, such as the National Emission Standards for Hazardous Air Pollutants for Halogenated Solvent Cleaning, may also regulate the usage of such compounds as trichloroethylene.

1.2 Exemptions. The provisions of this Section shall not apply to the following activities:
A. Solvent cleaning operations specifically regulated by another Section in this Part VI.

B. Laundering and housekeeping supplies and activities.

C. Testing for surface cleanliness or the cleaning of laboratory equipment at a laboratory.

D. A cleaning solution containing twenty (20) percent or less VOC by either weight or volume, or equivalent, as shown by any of the following:

1. Is composed of at least ninety-eight (98) percent water by either weight or volume; or

2. Contains only water and material which is a dry solid before mixing with water; or

3. Has a VOC content not exceeding twenty (20) grams per liter (0.17 lb/gal).

2.0 DEFINITIONS

"Agitation/Agitated" means a state that moves cleaning liquid continuously back and forth or up and down. This includes such motion created by sound waves and to the splashing of a rinse stream operated at a pressure that creates a trajectory exceeding 2 feet along the horizontal plane intersecting the nozzle when the nozzle is at a 45 degree angle above the plane. Liquid motion incidental to a continuous entrance or withdrawal of objects undergoing is not agitation.

"Air Solvent Interface" means the surface area defined by points of contact between the solvent liquid or vapor in the solvent cleaner and the surrounding air.

"Carry-Out" means solvent carried out of the cleaning machine along with a part being removed from the cleaning machine. The solvent may exist as a liquid coating the part or the part=s hanger or as a liquid entrapped in cavities and irregular surfaces, or entrapped by capillary action within or on the part.

"Cleaning Solvent" means solvent used for cleaning that contains more than 2.0% VOC by weight and more than 20 grams of VOC per liter (0.17 lb/gal).

"Cold Cleaning Degreaser" means an apparatus used to clean and remove soil from surfaces through a batch process by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point.
“Control Device” means equipment used to reduce, by destruction or removal, the amount of air pollutant(s) in an air stream prior to discharge to the ambient air.

“Conveyorized Degreaser” means an apparatus used to clean and remove soil from a continuous stream of parts using either cold or vaporized solvents.

“Degreaser”: see “SOLVENT CLEANER”

“Dry Solid” means any substance that appears and feels dry and that shatters or pulverizes when struck with a hard object. Evaporating solids, all of which have a strong odor, are not included.

“Emission Control System (ECS)” means a system designed and operated in accordance with good engineering practice to reduce emissions of volatile organic compounds. Such system consists of an emissions collection subsystem and an emissions processing subsystem.

“Freeboard Height” means:

A. For a cold cleaner, the distance from the liquid solvent level in the cold cleaning degreaser tank to the lip of the tank.

B. For an open-top vapor degreaser, it is the distance from the vapor level in the tank during idling to the lip of the tank.

C. For a conveyorized degreaser using vaporized solvents, it is the distance from the vapor level to the bottom of the entrance or exit opening, whichever is lower.

D. For a conveyorized degreaser using cold solvents, it is the distance from the liquid solvent level to the bottom of the entrance or exit opening, whichever is lower.

“Freeboard Ratio” means the freeboard height divided by the smaller interior dimension (length, width, or diameter) of the solvent cleaner tank.

“Leak” means that state or condition in which a cleaning-solvent is allowed to seep or drip or otherwise enters or escapes at either 3 or more drops per minute or a puddle of cleaning-solvent greater than 1 square inch.

“Leakproof Coupling” means a threaded or other type of coupling that prevents solvents from leaking while filling or draining solvent to and from the solvent cleaner.

“Lip Exhaust” means a system that collects solvent vapors escaping from the top of the cleaner.
"Low Pressure Spray Gun" means an air-atomized spray gun that, by design, functions best at tip pressures below ten (10) psig (516 mm Hg) and for which the manufacturer makes no claims to the public that the gun can be used effectively above twelve (12) psig (619 mm Hg). Measurement of air pressure at the center of the spray gun tip and air horns of an air-atomizing spray gun shall be performed using an attachable device in proper working order supplied by the gun’s manufacturer for performing such a measurement.

"Make-up Solvent" means the increment of cleaning-solvent that replaces solvent lost through evaporation or other means and that is added to the solvent remaining in a cleaning machine to bring solvent quantity to the desired level.

"Non-complying Solvent" means a solvent that exceeds the applicable percentage composition limit for any of the following four chemical groupings:

A. **Group I**: One or more of the following families of compounds having the olefinic or cyclo-olefinic type of unsaturation - hydrocarbons, alcohols, aldehydes, esters, ethers, and/or ketones; except perchloroethylene: five (5) percent by volume.

B. **Group II**: One or more aromatic compounds having eight or more carbon atoms to the molecule except ethylbenzene, methyl benzoate, and phenylacetate: eight (8) percent by volume.

C. **Group III**: One or more of the following compounds and compound types - ketones having a branched hydrocarbon structure, ethylbenzene, trichloroethylene, and/or toluene: twenty (20) percent by volume.

D. An aggregate of any combination of the above three groups: twenty (20) percent by volume.

Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered a member of the most reactive chemical group that it can be classified into, that is, that group having the lowest percentage composition limit.

"Non-Precursor Organic Compound" means any of the following organic compounds which have been designated by the EPA as having negligible photochemical reactivity. EPA designates such compounds as "exempt":

- 67-64-1 Acetone;
- 74-82-8 Methane;
- 74-84-0 Ethane;
- 75-09-2 Methylene chloride (dichloromethane);
- 71-55-6 1,1,1-trichloroethane (methyl chloroform);
- 75-69-4 Trichlorofluoromethane (CFC-11);
- 75-71-8 Dichlorodifluoromethane (CFC-12);
75-45-6 Chlorodifluoromethane (HCFC-22);
76-13-1 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
76-14-2 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
76-15-3 Chloropentafluoroethane (CFC-115);
75-46-7 Trifluoromethane (HFC-23);
306-83-2 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123);
2837-89-0 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
1717-00-6 1,1-dichloro-1-fluoroethane (HCFC-141b);
75-68-3 1-chloro-1,1-difluoroethane (HCFC-142b);
354-33-6 Pentfluoroethane (HFC-125);
354-25-6 1,1,2,2-tetrafluoroethane (HFC-134);
811-97-2 1,1,1,2-tetrafluoroethane (HFC-134a);
420-46-2 1,1,1-trifluoroethane (HFC-143a);
75-37-6 1,1-difluoroethane (HFC-152a);
98-56-6 Parachlorobenzotrifluoride (PCBTF);
127-18-4 Perchloroethylene (tetrachloroethylene);
422-56-0 3,3-dichloro-1,1,2,2-pentafluoropropane (HCFC-225ca);
507-55-1 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee);
75-10-5 Difluoromethane (HFC-32);
353-36-6 Ethylfluoride (HFC-161);
690-39-1 1,1,1,3,3,3-hexafluoropropane (HFC-236fa);
678-86-7 1,1,2,2,3-pentafluoropropane (HFC-245ca);
460-73-1 1,1,2,3,3-pentafluoropropane (HFC-245ea);
431-31-2 1,1,2,3,3-pentafluoropropane (HFC-245eb);
1,1,1,3,3-pentafluoropropane (HFC-245fa);
431-63-0 1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
1,1,1,3,3-pentafluorobutane (HFC-365mfc);
593-70-4 Chlorofluoromethane (HCFC-31);
1615-75-4 1-chloro-1-fluoroethane (HCFC-151a);
354-23-4 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
1,1,1,2,3,3,4,4-nonatluoro-4-methoxy-butane (C4F9OC2H3); 2-(difluoromethoxyethyl)-1,1,1,2,3,3-heptfluoropropane ((CF3)2CFCF2OC(OCH3); 1-ethoxy-1,1,2,2,3,3,4,4,4-nonatluorobutane (C4F9OC2H5); 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptfluoropropane ((CF3)2CFCF2OC2H5); 79-20-9 methyl acetate; cyclic, branched, or linear completely methylated siloxanes; perfluorocarbon compounds that fall into these classes:
(1) Cyclic, branched, or linear, completely fluorinated alkanes;
(2) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
(3) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

"Open-Top Vapor Degreaser" means any batch-loaded degreaser using solvent that is maintained above the initial boiling point temperature of the solvent. Degreasing occurs through the condensation of the resultant solvent vapor onto the surface of the workload.

"Organic Compound" means any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, carbonates, and metallic carbides.

"Organic Solvent" means any organic compound which is liquid at actual conditions of use or storage and which is used as a diluent, thinner, dissolver, viscosity reducer, extractant, cleaning agent or is a reactant or product in a manufacturing process.

"Refrigerated Chiller" means a control device mounted above both the water jacket and the primary condenser coils, consisting of secondary coils, which carry a refrigerant that provides a chilled air blanket above the solvent vapor, thereby reducing VOC emissions from the solvent degreaser bath.

"Rotating Basket" means a perforated or wire mesh cylinder containing parts to be cleaned that is slowly rotated while proceeding through the degreaser.

"Solvent" for the purposes of this Section, means any liquid or vapor which is used to dissolve, clean, strip, or remove impurities, coatings, contaminants, or films from surfaces or from internal spaces and voids. In addition to VOC-containing solvents, this also includes plain water and mixtures containing water.

"Solvent Cleaner" means a device that applies solvent or in which solvent is applied to items for the purpose of solvent cleaning.

"Solvent Cleaning" means the use of organic solvent to remove loosely held uncured adhesives, uncured inks, uncured coating, and other contaminants that include, but are not limited to, dirt, soil, lubricants, coolant, moisture, grease, and fingerprints from parts, products, tools, machinery, equipment, and general work areas.

"Solvent Cleaning Operation" means any process, including wipe cleaning, used to clean or dry metal and non-metal surfaces typically using a cold, vapor, or conveyorized solvent cleaner.

"Solvent Container" means that part of the solvent cleaner that is intended to hold the cleaning-solvent.

"Sump" means the part of a solvent cleaner where the liquid solvent is located.
"True Vapor Pressure" means absolute vapor pressure of a liquid at its existing temperature of storage and handling.

"Vapor Loss Control Device" means any piping, hoses, equipment, and devices which are used to collect, store and/or process organic vapors at a bulk terminal, bulk plant, service station or other operation handling gasoline and/or other organic liquids.

"Volatile Organic Compounds" or "(VOCs)" means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions.

(1) This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity: methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC–113); trichlorofluoromethane (CFC–11); dichlorodifluoromethane (CFC–12); chlorodifluoromethane (HCFC–22); trifluoromethane (HFC–23); 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC–114); chloropentafluoroethane (CFC–115); 1,1,1-trifluoro 2,2-dichloroethane (HCFC–123); 1,1,1,2-tetrafluoroethane (HFC–134a); 1,1-dichloro 1-fluoroethane (HCFC–141b); 1-chloro 1,1-difluoroethane (HCFC–142b); 2-chloro 1,1,1,2-tetrafluoroethane (HCFC–124); pentfluoroethane (HFC–125); 1,1,2,2-tetrafluoroethane (HFC–134); 1,1,1-trifluoroethane (HFC–143a); 1,1-difluoroethane (HFC–152a); parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes; acetone; perchloroethylene (tetrachloroethylene); 3,3-dichloro 1,1,2,2-pentafluoropropane (HCFC–225ca); 1,3-dichloro 1,1,2,2,3-pentafluoropropane (HCFC–225cb); 1,1,1,2,3,3,4,5,5,5-decafluoropentane (HFC–43–10mee); difluoromethane (HFC–32); ethylfluoride (HFC–161); 1,1,1,3,3,3-hexafluoropropane (HFC–236fa); 1,1,2,2,3-pentafluoropropane (HFC–245ca); 1,1,2,3,3-pentafluoropropane (HFC–245cb); 1,1,1,3,3-pentafluoropropane (HFC–245fa); 1,1,1,2,3,3-hexafluoropropane (HFC–236fa); 1,1,1,3,3,3-heptafluorobutane (HFC–227ea); chlorofluoromethane (HCFC–31); 1 chloro 1-fluoroethane (HCFC–151a); 1,2-dichloro 1,1,2-trifluoroethane (HCFC–123a); 1,1,1,2,3,3,4,4-nonfluoro 4-methoxybutane (C6F5OC2H3 or HFE–7100); 2-(difluoromethoxymethyl) 1,1,2,3,3,3-heptafluoropropane ((CF3)2CFCF2OC2H5); 1-ethoxy 1,1,2,2,3,3,4,4,4-nonfluorobutane (C6F5OC2H3 or HFE–7200); 2-(ethoxydifluoromethyl) 1,1,1,2,3,3,3-heptafluoropropane ((CF3)2CFCF2OC2H5); methyl acetate, 1,1,1,2,2,3,3-heptafluoro 3-methoxy propane (n-C3F7OCH3, HFE–7000); 3-ethoxy 1,1,1,2,3,4,5,6,6,6-dodecafluoro 2-trifluoromethyl) hexane (HFE–7500); 1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea), and methyl formate (HCOOCH3), and perfluorocarbon compounds which fall into these classes:

(i) Cyclic, branched, or linear, completely fluorinated alkanes;
(ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

(iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

(iv) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

"Waste Solvent Residue" means sludge that may contain dirt, oil, metal particles, and/or other undesirable waste products concentrated after heat distillation of the waste solvent either in the solvent cleaner itself or after distillation in a separate still.

"Wipe Cleaning" means the cleaning and removal of residue or contaminants from surfaces by manually rubbing the surfaces with solvent-containing rags or disposable wipers.

"Workload" means the objects put in a cleaner for the purposes of removing oil, grease, soil, coating, dirt, or other undesirable matter from the surface of the objects.

3.0 LIMITATIONS AND STANDARDS

3.1 Solvent Handling Requirements. Any person to whom this Section applies must comply with all of the following solvent handling requirements:

A. All cleaning solvent, including solvent soaked materials, shall be kept in closed leakfree containers that are opened only when adding or removing materials.

B. Rags used for wipe cleaning shall be stored in closed containers when not in use.

C. Each container shall be clearly labeled with its contents.

D. If any cleaning solvent escapes from a container:

1. Wipe up or otherwise remove immediately if in accessible areas.

2. For areas where access is not feasible during normal production, remove as soon as reasonably possible.

3.2 Operating and Signage Requirements for Solvent Cleaning Operations.

A. Any person who uses a solvent cleaner must conform to the following operating requirements:
1. The solvent cleaner, ventilation system, and emission control equipment shall be installed, operated, and maintained in proper working order.

2. The solvent containers shall be free of all liquid leaks. Auxiliary cleaner equipment, such as pumps, water separators, steam traps, or distillation units shall not have any liquid leaks, visible tears, or cracks.

3. Any such liquid leak, visible tear, or crack that is detected shall be repaired within one day from discovery by the operator, or the cleaner shall be drained of all solvent and shut down until replaced or repaired.

4. Solvent cleaners shall not be operated when leaking.

5. When solvent is added to or drained from a solvent cleaner, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

6. If distillation recovery of waste solvent is performed, solvent residues shall not contain more than twenty (20) percent solvent by weight.

7. No person shall remove or open any device designed to cover the solvent unless processing work in the solvent cleaner or performing maintenance on the solvent cleaner.

8. Drain clean parts after cleaning for at least fifteen (15) seconds or until dripping ceases.

9. Drain cleaned material within the freeboard area so that the drained solvent is returned to the container. Parts shall be oriented for best drainage.

10. If using a solvent flow, use only a continuous, fluid stream (not a fine, atomized, or shower type spray) at a pressure that does not cause liquid solvent to splash outside of the solvent cleaner.

11. Perform solvent agitation, where necessary, by means other than air agitation.
12. Solvent cleaning or solvent vapor cleaning of porous or absorbent materials such as sponges, cloth, leather, wood, or rope is prohibited.

13. Minimize solvent carry-out by employing the following measures:
   a. Rack workload to facilitate drainage;
   b. Move workload in and out of the degreaser at less than 3.3 m/minute (11 ft/minute);
   c. Degrease the workload in the vapor zone until condensation ceases;
   d. Allow workload to dry within the solvent cleaner until visually dry;
   e. For manual operation, tip out any pools of solvent remaining on the workload before removing it from the solvent cleaner.

14. A cleaner shall not be located where drafts are directed across the cleaner.

15. For those cleaners equipped with water separators, no solvent shall be visually detectable in the water exiting the water separator.

16. A lip exhaust system shall not be added to any solvent cleaner, unless it is vented to an emission control system. The lip exhaust shall be turned off when the degreaser is covered.

17. Operators must receive training in proper solvent cleaning procedures.

B. Any person using a solvent cleaner must post a permanent, conspicuous label that summarizes proper operating procedures consistent with minimizing emissions of organic solvents.

3.3 Equipment Requirements. Any person using a solvent cleaner shall utilize the following:

A. An apparatus or cover that prevents the solvent from evaporating when not processing work in the solvent cleaner.
1. For cold cleaning degreasers, if the solvent volatility is greater than 0.3 psia (at 100 degrees Fahrenheit), the solvent is agitated, or heated, the cover should be a sliding, rolling or guillotine (bi-parting) type that can be opened and closed easily with one hand or foot. Covers for larger degreasers may require mechanical assistance, by spring loading, counterweighting or powered systems.

2. For open-top vapor degreasers, the cover should be a sliding, rolling or guillotine (bi-parting) type that can be opened and closed easily without disturbing the vapor zone.

3. For conveyorized degreasers, a cover shall be provided for closing off the entrance and exit during shutdown hours.

4. If the solvent cleaner is equipped with a lip exhaust, the cover shall be located below the lip exhaust. The lip exhaust shall be turned off when the solvent cleaner is covered. As of (the effective date of this Section), a lip exhaust system shall not be added to any solvent cleaner unless it is vented to an ECS.

5. Equipment covers and dipping or rotating baskets must be constructed of nonporous or nonabsorbent material. Covers must form a tight seal with the sides of the solvent cleaner and have no gaps or holes.

B. A facility for draining cleaned parts such that the drained solvent is returned to the container.

4.0 COLD CLEANING OPERATIONS

4.1 Equipment Specifications for Cold Cleaning Operations. The owner or operator of a cold cleaning degreaser shall comply with the following applicable equipment specifications:

A. The cleaner shall be equipped with an internal drainage basket so that parts are enclosed under the cover while draining if the solvent true vapor pressure is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at one hundred (100) degrees Fahrenheit (thirty-eight (38) degrees Celsius) by ASTM D2879-92.

B. If the solvent true vapor pressure is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at one hundred (100) degrees Fahrenheit (thirty-eight (38) degrees Celsius) by ASTM D2879-92 or if the solvent is heated above one
hundred twenty (120) degrees Fahrenheit (fifty (50) degrees Celsius), one of the following control measures shall be implemented:

1. Freeboard height that gives a freeboard ratio greater than or equal to 0.7;

2. Water cover at least 2.54 centimeters (1 inch) in depth (solvent shall be insoluble in and heavier than water); or

3. Another system of equivalent control (as determined by the test methods in section 9.2), such as a refrigerated chiller or a carbon adsorber, approved by the Department.

C. The height of the solvent shall not exceed the manufacturer's fill-line for the machine.

5.0 OPEN-TOP VAPOR DEGREASERS

5.1 Equipment Specifications.

A. The owner or operator of an open-top vapor degreaser shall comply with the following applicable equipment specifications:

1. The open-top vapor degreaser shall be equipped with a baffle on the windward side of the open-top vapor degreaser;

2. The open-top degreaser shall be equipped with the following safety switches:
   
a. A condenser coolant flow and high level thermostat switch that shuts off the sump heat if the condenser coolant is either not circulating or is too warm;

b. A spray safety switch that shuts off the spray pump if the vapor level drops more than ten (10) cm (4 in) below the lowest condensing coil;

c. A vapor level control thermostat that shuts off the sump heat when the vapor level rises above the recommended level;

d. A solvent level control; and

e. A sump thermostat.
3. One of the following control measures shall be implemented:

a. Freeboard ratio greater than or equal to 0.75 and, if the open-top vapor degreaser opening is greater than 1 m² (10.8 ft²), a powered (motorized) cover;

b. Refrigerated chiller with a chilled air blanket temperature no greater than thirty (30) percent of the solvent’s boiling point in degrees Fahrenheit measured at the centroid of the open-top vapor degreaser at the coldest point;

c. Enclosed design (cover or door opens only when the dry part to be cleaned is actually entering or exiting the open-top vapor degreaser);

d. Carbon adsorption system, with ventilation greater than or equal to fifteen (15) cubic meters per minute per square meter (m³/min/m²) (fifty (50) cubic feet per minute per square foot [cfm/ft²]) of air/solvent interface (when cover is open), and exhausting less than twenty-five (25) parts per million (ppm) of solvent averaged over one complete adsorption cycle, or twenty-four (24) hours, whichever is less; or

e. A control system, such as a thermal or catalytic incinerator, demonstrated to have a control efficiency equivalent to or greater than the control measures listed in the above paragraphs (as determined by the test methods in section 9.2) and approved by the Department.

5.2 OPERATING STANDARDS: The owner or operator of an open-top vapor degreaser shall comply with the following applicable operating standards:

A. Workloads shall not occupy more than half of the degreaser’s evaporative surface area.

B. Spray shall be conducted within the vapor zone.

C. The vapor level shall not drop to more than ten (10) cm (4 in) below the lowest condensing coil.

D. Workplace fans shall not be used near the open-top vapor degreaser opening and the exhaust ventilation shall not exceed twenty (20) m³/min/m² (65 cfm/ft²);
E. When starting the degreaser, the cooling system shall be turned on before, or simultaneously with, the sump heater.

F. When shutting down the degreaser, the sump heater shall be turned off before or simultaneously with the cooling system.

G. The degreaser shall be covered whenever the cooling system is off.

6.0 CONVEYORIZED DEGREASERS

6.1 EQUIPMENT SPECIFICATIONS: Any person who owns or operates a conveyorized degreaser shall comply with the following requirements:

A. The conveyorized degreaser shall be equipped with a drying tunnel or rotating (tumbling) basket sufficient to prevent cleaned parts from carrying out solvent liquid or vapor.

B. Downtime covers shall be provided for closing off the entrance and exit at all times when the conveyors and exhausts are not being operated.

C. A conveyorized degreaser shall be fully enclosed except for entrance and exit portals.

D. The machine shall have a freeboard ratio greater than or equal to 0.75.

E. An owner and/or operator may meet the requirements of any one or combination of the requirements of subsection 6.1 by operating an ECS in accordance with Section 7.0 of this Section.

6.2 OPERATING STANDARDS: Any person that owns or operates a conveyorized degreaser shall comply with the following operating standards:

A. Openings shall be minimized during operation so that entrances and exits silhouette workloads with an average clearance between the parts and the edge of the conveyorized degreaser opening of less than ten (10) cm (4 in) or less than ten (10) percent of the width of the opening.

B. Workplace fans shall not be used near the conveyorized degreaser opening and the exhaust ventilation shall not exceed ten (10) m³/min/m² (65 cfm/ft²).

C. Any installed downtime covers shall be placed over entrances and exits of the conveyorized degreaser at all times when the conveyors and exhausts are not being operated.
D. When starting the degreaser, the cooling system shall be turned on before, or simultaneously with, the sump heater.

E. When shutting down the degreaser, the sump heater shall be turned off before, or simultaneously with, the cooling system.

7.0 EMISSIONS CONTROL REQUIREMENTS

7.1 Operation and Maintenance Plan Required for ECS.

A. Existing ECS. The owner or operator of a solvent cleaning operation in operation on or after November 1, 2004 shall submit an Operation and Maintenance Plan (O&M Plan) for emission control systems at the time the initial permit application is submitted to the Department for an operating permit. The O&M Plan shall describe the ECS monitoring devices and indicate temperatures, rates of flow, and other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained. The O&M Plan shall also describe the procedures to properly install and maintain these devices in calibration, in good working order and in operation.

B. New ECS. If the owner or operator of a solvent cleaning operation intends to install a new ECS as the means of meeting the provisions of this Section, he or she shall notify the Department in writing within thirty (30) days of applicability. Such an ECS shall be in use within nine (9) months of the effective date of this Section. The O&M Plan required by paragraph A of this subsection shall be submitted to the Department for approval upon startup of the ECS.

7.2 Providing and Maintaining ECS Monitoring Devices.

Any person incinerating, adsorbing, or otherwise processing VOC emissions from a solvent cleaning operation shall provide, maintain and operate ECS monitoring devices, as indicated in the facility’s O&M Plan.

8.0 MONITORING AND RECORDS

8.1 Reporting - Initial Compliance Certification. By no later than May 1, 2006, or upon startup of a new solvent cleaner or new ECS used to comply with this Section, the owner or operator shall provide to the Department an initial compliance certification, pursuant to the requirements of subsection 9.1.A. Owners or operators of solvent cleaners that are still in operation five (5) years after the date from which the initial compliance certification was provided to the
Department shall provide an updated compliance certification within thirty (30) days of the five-year date.

8.2 **Recordkeeping.** Any person subject to the requirements of this Section shall comply with the following recordkeeping requirements. Records shall be retained for five (5) years and shall be made available to the Director upon request.

A. **Current List of Solvents.** Maintain a current list of cleaning-solvents being utilized and state the VOC-content of each in pounds VOC per gallon of material or grams per liter of material.

B. **Usage Records.**
   1. **Monthly Usage Records.** Maintain monthly records of the amount of cleaning-solvent used. Records of the amount of cleaning solvent used shall be updated by the last day of the month for the previous month.
   2. **Grouping by VOC Content.** For purposes of recording usage, an operator may give cleaning-solvents of similar VOC content a single group-name, distinct from any product names in the group. The total usage of all the products in that group are then recorded under just one name. (In such a case, the operator must also keep a separate list that identifies the product names of the particular solvents included under the group name). To the group name shall be assigned the highest VOC content among the members of that group, rounded to the nearest 10\(^{th}\) of a pound of VOC per gallon of material, or to the nearest gram VOC per liter of material.

C. **ECS Records.** Any person using an add-on emission control system as a means of complying with the provisions in subsections 4.1, 5.1, or 6.1 shall maintain daily records of key system operating parameters and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission producing activities. Key system operating parameters are those necessary to ensure compliance with VOC limits. The parameters may include, but are not limited to, temperatures, pressures, and flow rates.

9.0 **COMPLIANCE AND TEST METHODS**

9.1 **Compliance Determination.**

A. **Equipment Standards.** Upon startup of a new solvent cleaner, replacement of an existing solvent cleaner with one of a different model, changing the
control device used on an existing solvent cleaner, or upon request by the Department, the owner of the solvent cleaner shall perform tests and submit to the Department a compliance certification which contains the results of all tests and calculations necessary to demonstrate that the solvent cleaner will be in compliance with the applicable equipment standards.

B. Safety Switches. In addition to the monitoring requirement set forth in the requisite O&M Plan, safety switches must be tested semiannually.

9.2 Test Methods. Compliance with the emission standards in this Section shall be determined by applying the following test methods, which are set forth in 40 C.F.R. Part 60, Appendix A (adopted as of [date of proposed rule], and no future additions or amendments, and incorporated herein by reference), the ASTM methods, or as indicated. [When more than one test method is permitted for a determination, an exceedance of the limits established in this Section determined by any of the applicable test methods constitutes a violation of this Section.]

A. EPA Methods 1-4 to determine flow rates.


E. EPA Test Method 204 (“Criteria for and Verification of a Permanent or Temporary Total Enclosure”), 204a, 204b, 204c, 204d, 204e, and 204f (40 C.F.R. Part 51, Appendix M).


G. California’s South Coast Air Quality Management District (SCAQMD) Method 313-91.

H. ASTM D2879-92 for measuring solvent true vapor pressure.
I. The control equipment efficiency of an emission control system as specified in 40 C.F.R. Part 60, Appendix A, subsection (k)(1)(D), on a mass emissions basis, and the VOC concentrations in the exhaust gases, measured and calculated as carbon, shall be determined by EPA Methods 25, 25A, SCAQMD Method 25.1 ("Determination of Total Gaseous Non-Methane Organic Emissions as Carbon"), or SCAQMD Method 25.3 ("Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources"), as applicable. EPA Method 18, or California Air Resources Board (CARB) Method 422 shall be used to determine emissions of exempt compounds.