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.** 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 perchloroethlylene: 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; methylene 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-fluoroethane (HCFC-141b); 1-chloro-1,1-difluoroethane (HCFC-142b); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1,2-tetrafluoroethane (HFC-134a); 1,1,1-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); 1,1,1-trifluoroethane (HFC–143a); 1,1-difluoroethane (HFC–152a); parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes; acetone; perchloroethylene (tetrachloroethylene); 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC–225ca); 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC–225cb); 1,1,1,2,3,4,4,5,5,5-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–245ea); 1,1,1,2,3-pentafluoropropane (HFC–245eb); 1,1,1,3,3-pentafluoropropane (HFC–245fa); 1,1,1,2,3,3-hexafluoropropane (HFC–236ea); 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); 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane ($C_4F_9OCH_3$ or HFE–7100); 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ($(CF_3)_2CFCF_2OCH_3$); 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane ($C_4F_9OC_2H_5$ or HFE–7200); 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ($(CF_3)_2CFCF_2OC_2H_5$); methyl acetate, 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-$C_3F_7OCH_3$, HFE–7000), 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-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.

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

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 <u>Specifications for Loading of VOC.</u>

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.

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 lease 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.

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

sufficient capacity to receive all VOC vapors displaced from any tank truck, trailer, or railroad tank car being loaded.

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 <u>Monitoring and Inspection Requirements for VOC Storage and Transfer</u>.

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).

2. The non-complying organic compound content shall be determined using the ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E 260-96 General Techniques or Infrared Quantitative Analysis, E 168-92; or General Techniques of Ultraviolet Quantitative Analysis, E 169-93.

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.

4. Capture/control efficiency shall be determined by mass balance in combination with ventilation/draft rate determination or by applying U.S. EPA's "Guidelines for Determining Capture Efficiency" (January 1995).

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.