## DISTRICT DEPARTMENT OF THE ENVIRONMENT
## Chapter 7 - Volatile Organic Compounds

### 700 MISCELLANEOUS VOLATILE ORGANIC COMPOUNDS (VOCs)

700.1 Unless otherwise specified, sources subject to subsequent sections of this chapter shall not be subject to § 700.

700.2 No person shall discharge into the atmosphere more than fifteen (15) pounds of volatile organic compound (VOC) emissions in any one (1) day, nor more than three pounds (3 lb.) in any one (1) hour, from any combination of articles, machines, units, equipment, or other contrivances at a facility, unless the uncontrolled VOC emissions are reduced by at least ninety percent (90%) overall capture and control efficiency.

700.3 No person shall discharge into the atmosphere more than forty (40) pounds of nonphotochemically reactive solvents in any one (1) day, nor more than eight (8) pounds in any one (1) hour, from any article, machine, equipment, or other contrivance, unless the uncontrolled organic emissions are reduced by at least eighty-five percent (85%).

### 701 STORAGE OF PETROLEUM PRODUCTS

701.1 A person shall not place, store or hold in any stationary tank, reservoir or other container with a capacity of more than forty thousand (40,000) gallons of any gasoline or any petroleum distillate having a vapor pressure of one and cne-half (1.5) pounds per square inch absolute or greater under actual storage conditions, unless the tank, reservoir, or other container is a pressure tank maintaining working pressures sufficient at all times to prevent hydrocarbon vapor or gas loss to the atmosphere, or is designed and equipped with one of the vapor loss control devices in good working order and in operation, as provided in §§701.2 through 701.13.

701.2 This section applies to all petroleum liquid storage vessels equipped with external floating roofs, having capacities greater than forty thousand (40,000) gallons.

701.3 This section does not apply to petroleum liquid storage vessels which do any of the following:

(a) Are used to store waxy, heavy pour crude oil;

(b) Have a capacity of less than four hundred twenty thousand (420,000) gallons and are used to store produced crude oil and condensate prior to lease custody transfer;

(c) Contain a petroleum liquid with a true vapor pressure of less than one and one-half

(1.5) pounds psia;

(d) Contain a petroleum liquid with a true vapor pressure less than four (4.0) pounds psia; and

(1) Are of welded construction; and

(2) Presently possess a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid filled type seal, or other closure device of demonstrated equivalence approved by the Mayor; or

(e) Are of welded construction, equipped with a metallic-type shoe primary seal and have a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).

701.4 No owner of a petroleum liquid storage vessel subject to this section shall store a petroleum liquid in that vessel unless the following requirements have been met:

(a) The vessel has been fitted with:

(1) A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or

(2) A closure or other device which controls volatile organic compound emissions with an effectiveness equal to or greater than a seal required under §701.4(a)(1) and approved by the Mayor;

(b) All seal closure devices meet the following requirements:

(1) There are no visible holes, tears, or other openings in the seal(s) or seal fabric;

(2) The seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

(3) For vapor mounted primary seals, the accumulated areas of gaps exceeding one-eighth (1/8) inch in width between the secondary seal and the tank wall shall not exceed one (1.0) inch squared per foot of tank diameter, as determined by the method in §701.12.

(c) All openings in the external floating roof, except for automatic bleeder vents,

rim space vents, and leg sleeves, are:

(1) Equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and

(2) Equipped with projections into the tank which remain below the liquid surface at all times.

(d) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

(e) Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and

(f) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least ninety percent (90%) of the area of the opening.

701.5 The owner or operator of a petroleum liquid storage vessel with an external floating roof subject to this Subtitle shall:

(a) Perform routine inspections semi-annually in order to insure compliance with §701.4 and the inspections shall include a visual inspection of the secondary seal gap;

(b) Measure the secondary seal gap annually in accordance with §701.4(b)(3) when the floating roof is equipped with a vapor-mounted primary seal; and

(c) Maintain records of the types of volatile petroleum liquids stored, the maximum true vapor pressure of the liquid stored, and the results of the inspections performed according to §§701.5(a) and (b).

701.6 The owner or operator of a petroleum liquid storage vessel with an external floating roof exempted from this section by §701.3(c), but containing a petroleum liquid with a true vapor pressure greater than one (1.0) pound per square inch, all maintain records of the average monthly storage temperature, the type of liquid, and the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than one (1.0) pound per square inch.

701.7 Copies of all records under §§701.5 and 701.6 shall be retained by the owner or operator for a minimum of two (2) years after the date the record was made.

701.8 Copies of all records under this section shall immediately be made available to the Mayor,

upon verbal or written request, at any reasonable time.

701.9 The Mayor may, upon written notice, require more frequent inspections or modify the monitoring and recordkeeping requirements, when necessary to accomplish the purposes of this section.

701.10 The owner or operator of any volatile organic compound source required to comply with §701.13 shall, at his or her own expense, demonstrate compliance by the methods approved by the Mayor.

701.11 A person proposing to conduct a volatile organic compound emissions test shall notify the Mayor of the intent to test not less than thirty (30) days before the proposed initiation of the tests so the Mayor may at his or her option observe the test. The notification shall contain the information required by, and be in a format approved by, the Mayor.

701.12 Compliance with §701.2(b)(2)(C) shall be determined by the following:

(a) Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a one-eighth (1/8) inch uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and tank wall; and

(b) Summing the area of the individual gaps.

701.13 A vapor recovery system shall consist of a vapor gathering system capable of collecting the hydrocarbon vapors and gases so as to prevent their emission to the atmosphere and with all tank gauging and sampling devices gas-tight except when gauging or sampling is taking place.

## 702 CONTROL OF VOLATILE ORGANIC COMPOUND LEAKS FROM PETROLEUM REFINERY EQUIPMENT

702.1 The owner or operator of a petroleum refinery complex subject to this section shall do the following:

(a) Develop a monitoring program consistent with the provisions in §702.5(a);

(b) Conduct a monitoring program consistent with the provisions in §702.7;

(c) Record all leaking components which have a volatile organic compound concentration exceeding ten thousand (10,000) parts per million (ppm) when

tested according to the provisions in §702.6, and place an identifying tag on each component consistent with the provisions in §702.9;

(d) Repair and retest the leaking components as soon as possible but no later than fifteen (15) days after the leak is found; and

(e) Identify all leaking components which cannot be repaired until the unit is shut down.

702.2 The Mayor at his or her discretion may require early unit shutdown based on the number and severity of tagged leaks awaiting shutdown.

702.3 Except for safety pressure relief valves, no owner or operator of a petroleum refinery shall install or operate a valve at the end of a pipe or line containing volatile organic compounds unless the pipe or line is sealed with a second valve, a blind flange, a plug, or a cap. The sealing device may be removed only when a sample is being taken or during maintenance operations.

702.4 Pipeline valves and pressure relief valves in gaseous volatile organic compound service shall be marked in some manner that will be readily obvious to both refinery personnel performing monitoring and the Mayor.

702.5 In order to comply with §§702.1 Through 702.4, the owner or operator of a petroleum refinery shall do the following:

(a) Submit to the Mayor a monitoring program within ninety (90) days of the effective date of the District Columbia Air Pollution Control Act of 1984. This program shall contain, at a minimum, a list of the refinery units and the quarter in which they will be monitored, a copy of the log book format, and the make and model of the monitoring equipment to be used. In no case shall a monitoring contract relieve the owner or operator of a petroleum refinery of the responsibility for compliance with this Subtitle.

(b) Submit the first quarterly monitoring report to the Mayor within two hundred seventy (270) days of the effective date of the District of Columbia Air Pollution Control Act of 1984.

702.6 Testing and calibration procedures used to comply with this Subtitle shall be consistent with Appendix B of the EPA Office of Air Quality Planning and Standards, Guideline Series document, "Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment", EPA-450/2-78-036.

702.7 The owner or operator of a petroleum refinery subject to this Subtitle shall conduct a monitoring program consistent with the following provisions:

(a) Monitor yearly by the methods referenced in §702.6, the following:

(1) Pump seals;

(2) Pipeline valves in liquid service; and

(3) Process drains.

(b) Monitor quarterly by the methods referenced in §702.6, the following:

(1) Compressor seals;

(2) Pipeline valves in gaseous service; and

(3) Pressure relief valves in gaseous service.

(c) Monitor weekly by visual methods all pump seals;

(d) Monitor immediately any pump seal from which liquids are observed dripping;

(e) Monitor any relief valve within twenty-four (24) hours after it has vented to the atmosphere; and

(f) Monitor immediately after repair any component that was found leaking.

702.8 Pressure relief devices which are connected to an operating flare header, vapor recovery device, inaccessible valves, storage tank valves, or valves that are not externally regulated, are exempt from the monitoring requirements in §702.7.

702.9 The owner or operator of a petroleum refinery, upon the detection of a leaking component, shall affix a weatherproof and readily visible tag, bearing an identification number and the date the leak is located, to the leaking component. This tag shall remain in place until the leaking component is repaired.

702.10 The owner or operator of a petroleum refinery shall maintain a leaking components monitoring log as specified in §702.1© which shall contain, at a minimum, the following data:

(a) The name of the process unit where the component is located;

(b) They type of component (e.g., valve, seal);

(c) The tag number of the component;

(d) The date on which a leaking component is discovered;

(e) The date on which a leaking component is repaired;

(f) The date and instrument reading of the recheck procedure after a leaking component is repaired;

(g) A record of the calibration of the monitoring instrument;

(h) Those leaks that cannot be repaired until turnaround; and

(i) The total number of components checked and the total number of components found leaking.

702.11 Copies of the monitoring log shall be retained by the owner or operator for a minimum of two (2) years after the date on which the record was made or the report prepared.

702.12 Copies of the monitoring log shall be made available immediately to the Mayor, upon verbal or written request made at a reasonable time.

702.13 The owner or operator of a petroleum refinery, upon the completion of each yearly or quarterly monitoring procedure, shall submit the following:

(a) A report to the Mayor by the fifteenth ($15^{th}$) day of January, April, July, and October that lists all leaking components that were located during the previous three (3) calendar months but not repaired within fifteen (15) days, all leaking components awaiting unit turnaround, the total number of components inspected and the total number of components found leaking; and

(b) A signed statement with the report attesting to the fact that, with the exception of those leaking components listed in §702.13(a), all monitoring and repairs were performed as stipulated in the monitoring program.

702.14 The Mayor, upon written notice, may modify the monitoring, recordkeeping and reporting requirements as to a specific petroleum refinery complex or part of the specific petroleum

refinery complex.

702.15 If, at any time after two (2) complete liquid service inspections and five (5) complete gaseous service inspections, the owner or operator of a petroleum refinery can demonstrate that modifications to §§702.7 through 702.14 are appropriate, he or she may petition to the Mayor that revisions be made.

702.16 The petition for revisions under §702.15 shall contain the following:

(a) The name and address of the company and the name and telephone number of the responsible company representative over whose signature the petition is submitted;

(b) A detailed description of the problem encountered by implementing §§702.7 through 702.14; and

(c) A detailed description of the proposed alternative monitoring procedure

702.17 If at any time the owner or operator of a petroleum refinery can demonstrate that compliance with §§702.1 through 702.4 would require more than leaking component repair or equipment changeout, he or she may petition the Mayor to allow the use of alternative operational or equipment controls for the reduction of volatile organic emissions.

702.18 The petition filed pursuant to §702.17 shall be made for each component within a given facility, and shall contain the following:

(a) The name and address of the company and the name and telephone number of the responsible company representative over whose signature the petition is submitted;

(b) A description of all operations conducted at the location to which the petition applies and the purpose that the volatile organic compound emitting component serves within the operations;

(c) A detailed description of the proposed alternative operational or equipment controls; and,

(d) A schedule for the installation or institution of the alternative operational or equipment controls.

702.19 The Mayor may approve a petition for alternative control pursuant to §702.17 if the petition is submitted in accordance with §702.18.

## 703 TERMINAL VAPOR RECOVERY - GASOLINE OR VOLATILE ORGANIC COMPOUND

703.1 The loading of volatile organic compounds or gasoline into any tank truck, trailer, or railroad tank car from any loading facility shall be prohibited unless the loading facility is equipped with a vapor collection and disposal system or its equivalent designed to collect the total organic compound vapors displaced during loading and in good working order and in operation.

703.2 A loading procedure effected through the 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 vapor-tight seal between the adaptor and the hatch. A procedure shall be provided to prevent liquid drainage from the loading device when it is removed from the hatch of any tank truck, trailer, or railroad tank car, or to accomplish complete drainage before removal.

703.3 When loading is effected through means other than hatches, all loading and vapor lines shall be equipped with fittings which make vapor-tight connections and which close automatically when disconnected.

703.4 The vapor disposal portion of the system shall limit the emissions to the atmosphere to no more than eighty (80) milligrams of total organic compounds per liter of product loaded and shall consist of one of the following:

(a) A vapor-liquid adsorber system with a minimum recovery efficiency of ninety percent (90%) by weight of all the hydrocarbon vapors and gases entering the disposal system;

(b) A variable space tank, compressor, and fuel gas system of sufficient capacity to receive all hydrocarbon vapors and gases displaced from tank trucks, trailers, and railroad tank cars being loaded; or

(c) Other equipment of at least ninety percent (90%) efficiency; provided that the equipment is submitted and approved by the Mayor.

703.5 Compliance with or violation of the emission standards in §703 shall be determined in accordance with the procedures prescribed in Appendix A of "Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals," published by EPA, October 1977, publication numbers EPA-450/2-77-026 and OAQPS No. 1.2-082.

703.6 The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding eighteen (18) inches of water column during product loading.

703.7 No pressure-vacuum vent in the vapor collection and disposal system shall begin to open at a system pressure less than eighteen (18) inches of water column.

## 704 STAGE I VAPOR RECOVERY

704.1 The transfer of volatile organic compounds or gasoline from any delivery vessel into any stationary storage container with a capacity greater than two hundred fifty (250) gallons shall occur only if the container is equipped with a submerged fill pipe and the displaced vapors from the storage container are processed by a system that prevents release to the atmosphere of no less than ninety percent (90%) by weight of organic compounds in said vapors displaced from the stationary container location.

704.2 The vapor recovery portion of the system shall include either or both of the following:

(a) A vapor return line from the storage container to the delivery vessel and a system that will ensure that the vapor return line is connected before gasoline can be transferred into the container; or

(b) A refrigeration-condensation system or equivalent designed to recover no less than ninety percent (90%) by weight of the organic compounds in the displaced vapor.

704.3 If a vapor-tight return system is used to meet the requirements of §704, the system shall be constructed as to be adapted to retrofit with an absorption system, refrigeration-condensation system, or equivalent vapor removal system, and constructed to anticipate compliance with §705.

704.4 A delivery vessel shall be subject to the following conditions:

(a) It may be refilled only at facilities equipped with a vapor recovery system or the equivalent which can recover at least ninety percent (90%) by weight of the organic compounds in the vapor displaced from the delivery vessel during refilling; and

(b) It shall be leak tested, by any competent person, at least once each year in accordance with the procedures prescribed in Appendix A of "Control of

Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems", published by EPA, December 1978, publication numbers EPA-450/2-78-051 and OAQPS No. 119;

(c) The standard for passing the leak test referred to in §704.4(b) is that a pressure change of no more than three (3) inches of water column occur in five (5) minutes when the delivery vessel has been pressurized to eighteen (18) inches of water column and has been evacuated to six (6) inches of water column.

(d) Any delivery vessel that fails to pass the leak test shall be immediately taken out of service and shall be kept out of service until a subsequent test demonstrates compliance with the standards for passing the test.

(e) Whenever a delivery vehicle is in use, a clear and unequivocal certificate shall be posted, by the person responsible for conducting the test, in a conspicuous location on the delivery vessel identifying the particular delivery vessel tested and indicating compliance with the testing standards; and

(f) It shall be loaded or unloaded only if affirmative action has been taken to ensure that the delivery vessel has a clear and unequivocal certificate indicating that it has been leak tested within the past year in accordance with §704.4(b) and that the last leak test showed compliance with the standards in §704.4(c).

704.5 The provisions of §704 shall not apply to:

(a) Any container having a capacity of less than two thousand (2,000) gallons installed prior to March 1, 1974; provided, that the containers are equipped with submerged fill pipes; or

(b) Transfers made to storage tanks equipped with floating roofs or their equivalent.

704.6 The operation or maintenance of any delivery vessel, or of any part of any liquid delivery system, or vapor collection or recovery system used or designed to be used in connection with the loading or unloading of the delivery vessel, shall be performed in a manner that is vapor-tight or in a manner so that there is no avoidable visible liquid leakage or liquid spillage.

## 705 STAGE II VAPOR RECOVERY

705.1 Unless exempted under §§705.3 or 705.4, the transfer of gasoline to any vehicular fuel tank from

any stationary storage container shall be prohibited unless the transfer is made through a fill nozzle designed, operated, and maintained as follows:

(a) To prevent the discharge of gasoline vapors to the atmosphere from either the vehicle filler neck or the fill nozzle;

(b) To direct the displaced vapor from the vehicular fuel tank to either of the following:

(1) A system, utilizing a process other than vacuum assist, wherein at least ninety percent (90%) by weight of the organic compounds in the displaced vapors are removed, recovered, and/or destroyed; or

(2) A system, utilizing a vacuum assist process, wherein at least ninety-six percent (96%) by weight of the organic compounds in the displaced vapors are removed, recovered and/or destroyed; and

(c) Prevent vehicular fuel tank overfills and spillage.

705.2 A vapor-balance system meeting the specifications set forth in §705.5 and used in compliance with §705.6 shall be deemed to be in compliance with the requirements set forth in §705.1(b)(1).

705.3 All gasoline dispensing facilities available to the general public, or to segments of the general public by virtue of having some membership or military status, having three (3) or less dispensing nozzles and dispensing less than ten thousand (10,000) gallons of gasoline per month, or less than fifty thousand (50,000) gallons of gasoline per month in the case of an independent small business marketer of gasoline, shall be exempt from the requirements of subsection 705.1. All gasoline dispensing facilities available to the general public, or to segments of the general public by virtue of having some membership or military status, having three (3) or less dispensing nozzles and dispensing more than ten thousand (10,000) gallons of gasoline per month, or more than fifty thousand (50,000) gallons of gasoline per month in the case of an independent small business marketer of gasoline shall comply with the requirements of subsection 705.1 according to the following schedule:

(a) May 15, 1993, in the case of gasoline dispensing facilities for which construction commenced after November 15, 1990;

(b) November 15, 1993, in the case of gasoline dispensing facilities which dispense at least one hundred thousand (100,000) gallons of gasoline per month, based on average monthly sales for the two (2) year period before November 15, 1992; or

(c) November 15, 1994, in the case of all other gasoline dispensing facilities;

(d) Any gasoline dispensing facility described under both (a) and (b) shall meet the requirements of (a).

(e) Applicability shall be based upon the average monthly throughput determined for the two (2) year period prior to November 15, 1992, and will not include any periods of facility inactivity. Average monthly throughput shall be calculated using a thirty (30) day rolling average.

705.4 All gasoline dispensing facilities available to the general public, or to segments of the general public by virtue of having some membership or military status, may, if desired by the owner thereof, have no more than one (1) nozzle at each facility which does not comply with the requirements of §705.1; Provided that this exemption shall not be applicable to stations with no self-service islands.

705.5 A vapor balance system shall have the following:

(a) A vapor-tight vapor return hose to conduct the vapors displaced from the vehicular fuel tank to the gasoline dispensing facility's gasoline storage tanks(s);

(b) A vapor-tight seal to prevent the escape of gasoline vapors into the atmosphere from the interface between the fill nozzle and the filler neck of the vehicular fuel tank;

(c) A fill nozzle with a built-in no-seal no-flow feature designed to prevent the discharge of gasoline from the nozzle unless the seal described in §705.5(b) is engaged;

(d) A fill nozzle with a built-in feature, designed to automatically shutoff the flow of gasoline when the pressure in the vehicular fuel tank exceeds ten (10) inches of water gauge;

(e) A vapor return hose equipped with a device that will automatically shutoff the flow of gasoline through the fill nozzle when gasoline circulates back from the fill nozzle through the vapor hose to the facility's gasoline storage tank(s);

(f) A vapor return hose no longer than nine (9) feet in length unless the hose is attached to a device designed to keep the hose out of the way of vehicles (when the nozzle is not in use) and to drain the hose of any collected or condensed gasoline; and

(g) A gasoline dispensing system equipped with a device designed to prevent the dispensing of gasoline at any rate greater than eight (8) gallons per minute.

705.6 The use by any person of a fill nozzle which is a part of the vapor balance system shall be prohibited unless the system is maintained in good repair, and unless proper operating practices,

including, but not limited to, the following practices are followed:

(a) Draining the vapor return hose as often as is necessary, but at least once each operating day, of any collected or condensed gasoline;

(b) Waiting as long as is necessary, but at least three (3) seconds after the shut-off of the fuel, before disconnecting the nozzle from the fill neck, in order to balance the pressure between the vehicular fuel tank and the facility's gasoline storage tank(s);

(c) After each fuel delivery, placing the vapor return hose on an area where vehicles will not ride over the vapor return hose.

705.7 The transfer of gasoline to any vehicular fuel tank from any stationary storage tank shall be prohibited, unless he transfer is made through a fill nozzle designed to automatically shutoff the transfer of gasoline when the vehicular fuel tank is full or nearly full.

705.8 Any additional transfer of gasoline to any vehicular fuel tank from a stationary storage tank after the dispensing system has automatically shut-off the transfer of gasoline by virtue of the vehicular fuel tank being full or nearly full shall be prohibited.

705.9 The operator of a gasoline dispensing facility shall take the actions necessary to ensure that all parts of the system used at the facility for compliance with the section are maintained in good repair, and to ensure that any person, whether attendant, customer, or other, who uses the facility, does so in accordance with proper operating practices and otherwise in compliance with the requirements of §705.

705.10 For purposes of this section, "operator" means any person who leases, operates, manages, supervises, or controls, directly or indirectly, a gasoline dispensing facility.

705.11 The transfer of gasoline to any vehicular fuel tank from any stationary storage tank where a system for the control of gasoline vapors resulting from motor vehicle fueling operations is required shall be prohibited unless the operator posts conspicuously the operating instructions and warnings, in a form and with content duly promulgated by the Mayor, for the system in the gasoline dispensing area. The instructions shall be as follows:

(a) Clearly describe how to fuel vehicles correctly with vapor recovery nozzles utilized at the station;

(b) Include a prominent display of the telephone number of the service station owner or operator for making complaints; and

(c) Include warnings that:

(1) Repeated attempts to continue dispensing, after the system has indicated that the vehicle fuel tank is full, may result in spillage or recirculation of gasoline; and

(2) Breathing gasoline vapors is hazardous to health.

705.12 All vapor control systems (and components thereof) for the control of gasoline vapors resulting from motor vehicle fueling operations, including, but not limited to, vapor balance systems and vacuum assist systems, shall meet with requirements for certification and shall be operated in accordance with the standards in effect on the effective date of the District of Columbia Air Pollution Control Act of 1984 as established by the State Fire Marshal for the State of California or the Division of Measurement Standards of the Department of Food and Agriculture of the State of California pursuant to §§41956-41958 of the Health and Safety Code of the State of California.

705.13 The requirements and standards, including those specified in §§705.5, 705.6, and 705.12 of this Subtitle, may be changed by the Mayor through the exercise of administrative rulemaking procedures under the District of Columbia Administrative Procedure Act, approved October 21, 1968 (82 Stat. 1204; D.C. Code, §§1-1501 et seq., with the Mayor affording appropriate consideration in said rulemaking to the following factors:

(a) What other States and governmental authorities have done; and

(b) The effect of proposed changes upon distributors and manufacturers of vapor recovery equipment and upon the owners and operators of stations subject to the Stage II vapor recovery requirements.

705.14 Alternate vapor recovery systems may be used to attain compliance with §705.1(b) in lieu of the specific requirements stated in that section, provided that:

(a) The alternate system(s) is demonstrated to have at least equivalent results in recovering emissions of volatile organic compounds as application of the requirements of that section; and

(b) The alternate system(s) is approved by the Mayor.

706 PETROLEUM DRY CLEANERS

706.1 Section 706 applies to petroleum solvent washers, dryers, solvent filters, settling tanks, vacuum

stills, and other containers and conveyors of petroleum solvent that are used in petroleum solvent dry cleaning facilities.

706.2 Each owner or operator of a petroleum solvent dry cleaning dryer shall do one of the following:

(a) Limit emissions to the atmosphere to an average of three and one-half (3.5) pounds of volatile organic compounds per one hundred (100) pounds dry weight of articles dry cleaned; or

(b) Install and operate a solvent recovery dryer in a manner such that the dryer remains closed and the recovery phase continues until the final recovered solvent flow rate of fifty (50) milliliters per minute is attained.

706.3 Each owner or operator of a petroleum solvent filtration system shall do one of the following:

(a) Reduce the volatile organic compound content in all filtration wastes to one (1.0) pound or less per one hundred (100) pounds dryweight of articles dry cleaned, before disposal and exposure to the atmosphere; or

(b) Install and operate a cartridge filtration system, and drain the filter cartridges in their sealed housings for eight (8) hours or more before their removal.

706.4 Each owner or operator of a petroleum solvent vacuum still shall store all vacuum still wastes in a manner that minimizes emission of volatile organic compounds to the atmosphere.

706.5 Each owner or operator of a petroleum solvent dry cleaning facility shall repair all petroleum solvent vapor and liquid leaks within three (3) working days after identifying the leaks. If necessary repair parts are not on hand, the owner or operator shall order these parts within three (3) working days, and repair the leaks no later than three (3) working days following the arrival of the necessary parts.

706.6 The Mayor may exempt any facility from any provision of §§706.2 through 706.5 if it is demonstrated that hardships justify such an exemption.

706.7 Compliance with §706.2(a) shall be determined by the following:

(a) Calculating and recording the weight of volatile organic compounds vented from the dryer emission control device calculated by using EPA Reference Test (40 CFR, Part 60) Methods 1 and 2, and Method 25A published at 45 FR 83126, Dec. 17, 1980, with the following specifications:

(1) Field calibration of the flame ionization analyzer with propane standards;

(2) Laboratory determination of the flame ionization analyzer response to a given parts per million by volume concentration of propane to the response to the same parts per million concentration of the volatile organic compounds to be measured;

(3) Determination of the weight of volatile organic compounds vented to the atmosphere by:

(A) The multiplication of the ratio determined in §706.7(a)(2) by the measured concentration of volatile organic compound gas (as propane) as indicated by the flame ionization analyzer response output record;

(B) The conversion of the parts per million by volume value calculated in §706.7(a)(3)(A) into a mass concentration value for the volatile organic compounds present; and

(C) Multiplying the mass concentration value calculated in §706.7(a)(3)(B) by the exhaust flow rate determined by using EPA Reference Test Methods 1 and 2.

(b) Calculating and recording the dry weight of articles dry cleaned; and

(c) Repeating §706.7(a) and (b) for normal operating conditions that encompass at least thirty (30) dryer loads, which total not less than four thousand (4,000) pounds dry weight, and represent a normal range of variations in fabrics, solvents, load weights, temperatures, flow rates, and process deviations.

706.8. Compliance with §706.2(b) shall be determined by the owner or operator verifying that the flow rate of recovered solvent from the solvent recovery dryer at the termination of the recovery phase is no greater than fifty (50) milliliters per minute.

706.9 The procedure referred to in §706.8 shall be conducted one time for a duration of no less than two (2) weeks during which time no less than fifty percent (50%) of the dryer loads shall be monitored for their final recovered solvent flow rate. The suggested point for measuring the flow rate of recovered solvent is from the solvent-water separator. Near the end of the recovery cycle, the flow of recovered solvent should be diverted to a graduated cylinder. The cycle should continue until the minimum flow of solvent is fifty (50) milliliters per minute. The type of articles cleaned and the total length of the cycle should then be recorded.

706.10 Compliance with §706.3(a) shall be determined as follows:

(a) Calculate and record the weight of volatile organic compounds contained in at least five (5) two (2) pound samples of filtration waste taken at intervals of at least one (1) week, by employing ASTM Method D322-80 (Gasoline Diluent in Used Gasoline Engine Oils by Distillation);

(b) Calculate and record the total dry weight of articles dry cleaned during the intervals between removal of filtration waste samples, as well as the total mass of filtration waste produced in the same period; and

(c) Calculate and record the weight of volatile organic compounds contained in filtration waste material per one hundred pounds dry weight of articles dry cleaned.

706.11 Compliance with §§706.4 through 706.5 requires that each owner or operator make weekly inspections of washers, dryers, solvent filters, settling tanks, vacuum stills, and all containers and conveyors of petroleum solvent to identify perceptible volatile organic compounds vapor or liquid leaks.

706.12 To be in compliance with §§706.2 through 706.5 the owner or operator may use an equivalent test procedure or method provided that this method or procedure has been previously approved by the Mayor.

706.13 The owner or operator of a petroleum solvent dry cleaning facility subject to this Subtitle which is in existence on the effective date of the District of Columbia Air Pollution Control Act of 1984 shall meet the applicable increments of progress contained in the following schedule:

(a) Submit to the Mayor final plans for the emission control equipment no later than June 1, 1985;

(b) Award contracts for the emission control equipment no later than September 1, 1985;

(c) Complete on-site construction or installation of the emission control equipment no later than August 1, 1986; and

(d) Achieve final compliance with the Regulation no later than September 1, 1986.

**707 [Removed from SIP]**

**708 [Removed from SIP]**

## 709 ASPHALT OPERATIONS

709.1 Except for purposes of roofing, the manufacture, mixing, storage, use, or application of cutback asphalt during the months of April, May, June, July, August, and September is prohibited; except, that in specific circumstances, when it is shown to the satisfaction of the Mayor that the above prohibition is unreasonable, liquefied asphalts containing volatile organic compounds may be manufactured, mixed, stored, used, or applied during these months, subject to any conditions which the Mayor may impose to minimize the emissions of volatile organic compounds into the atmosphere.

709.2 In the determination of the unreasonableness of the prohibition of cutback asphalt, and in the determination of the conditions that the Mayor may impose to minimize the emissions of volatile organic compounds, the Mayor shall take into consideration, among other factors, the following:

(a) The need for long-life storage of the asphalt;

(b) The lack of significant evaporation of volatile organic compounds from the asphalt;

(c) The need to use any particular type of aggregate; and

(d) The weather conditions during the application of the asphalt.

**710 INTAGLIO, FLEXOGRAPHIC, AND ROTOGRAVURE PRINTING is amended to read as follows:**

710.1 Except as provided in § 710.2, it shall be prohibited to operate:

(a) Any intaglio printing unit or perform any intaglio printing operation, except in compliance with the requirements of this section; or

(b) After January 1, 2012, any individual flexographic or rotogravure package printing press with the theoretical potential to emit from the dryer before controls of at least twenty-five tons per year (25 tpy) of VOC from inks, coatings and adhesives combined, except in compliance with the applicable requirements of this section, where any flexographic or rotogravure package printing press that becomes or is currently subject to § 710.1(b) will remain subject to the applicable requirements of this section even if its theoretical potential to emit has fallen or later falls below the applicability threshold.

710.2 If part or all of any printing operation involving VOC emissions is not specifically controlled by the requirements of this section, then the VOC-related emission operation or part of the operation shall be governed by the other requirements of this subtitle.

710.3 This section shall apply only to the emissions of VOCs; all provisions of this subtitle other than those restricting the emissions of VOCs apply to the operations regulated by this section.

710.4 The use of inks, wiping solutions, and fountain solutions in connection with printing units shall comply with the limits on the percentage content of VOCs of the inks, wiping solutions and fountain solutions for the respective types of printing units and be subject to § 710.5 through 710.8.

710.5 The VOC content of ink shall not exceed the following percentages after December 31, 1987:

(a) Heatset intaglio, thirty percent (30%);

(b) Non-heatset paper-wipe intaglio, five percent (5%);

(c) Non-heatset cylinder-wipe intaglio, twelve percent (12%);

(d) Flexography, sixty-five percent (65%), except for any individual flexographic package printing press with the theoretical potential to emit from the dryer prior to controls of at least twenty-five tons per year (25 tpy) of VOC (petroleum ink oil) from inks, coatings, and adhesives combined, which are subject to the following:

(1) Sixty-five percent (65%) overall control for a press that was first installed before March 14, 1995, and that is controlled by an add-on air pollution control device (APCD) whose first installation was before January 1, 2012;

(2) Seventy percent (70%) overall control for a press that was first installed before March 14, 1995, and that is controlled by an add-on APCD whose first installation was on or after January 1, 2012;

(3) Seventy-five percent (75%) overall control for a press that was first installed on or after March 14, 1995, and that is controlled by an add-on APCD whose first installation was before January 1, 2012; and

(4) Eighty percent (80%) overall control for a press that was first installed on or after March 14, 1995, and that is controlled by an add-on APCD whose first installation was on or after January 1, 2012; and

(e) Gravure, twelve percent (12%), except for any individual rotogravure package printing press with the theoretical potential to emit from the dryer before controls of at least twenty-five tons per year (25 tpy) of VOC (petroleum ink oil) from inks, coatings, and adhesives combined, which are subject to the following:

(1) Sixty-five percent (65%) overall control for a press that was first installed before March 14, 1995, and that is controlled by an add-on APCD whose first installation was before January 1, 2012;

(2) Seventy percent (70%) overall control for a press that was first installed before March 14, 1995, and that is controlled by an add-on APCD whose first installation was on or after January 1, 2012;

(3) Seventy-five percent (75%) overall control for a press that was first installed on or after March 14, 1995, and that is controlled by an add-on APCD whose first installation was before January 1, 2012; and

(4) Eighty percent (80%) overall control for a press that was first installed on or after March 14, 1995, and that is controlled by an add-on APCD whose first installation was on or after January 1, 2012.

710.6 For § 710.5(d)(1)-(4) and (e)(1)-(4), calculation of the source's theoretical potential to emit shall be pursuant to § 715.1.

710.7 As an alternative to § 710.5(d)(1)-(4) and (e)(1)-(4), the following equivalent VOC content limits can be met:

(a) Eight tenths of a kilogram (0.8 kg) VOC/kilogram (kg) solids applied; or

(b) Sixteen tenths of a kilogram (0.16 kg) VOC/kilogram (kg) materials applied.

710.8 The VOC content of wiping solution shall not exceed the following percentages after December 31, 1987:

(a) Heatset intaglio, one percent (1%); and

(b) Non-heatset cylinder-wipe intaglio, one percent (1%).

710.9 For § 710.5 through 710.8:

(a) The percentage VOC content is by weight and applies to the inks and solutions as contained in the storage wells (fountains) of the printing unit, and does not include water;

(b) The percentage VOC content shall be determined in accordance with Procedure B of test method ASTM D-2369-81; where, in lieu of testing the formulated inks and solutions, the individual components of the formulations may be tested and the VOC content of the formulations may be calculated there from; and

(c) The percentage water content shall be determined in accordance with test method ASTM D-3792-79.

710.10 Ink usage in connection with all forms of intaglio printing shall be minimized to the extent feasible by routing the inking cylinders or other techniques.

710.11 Alternate VOC emission reduction systems may be used to attain compliance with § 710.5 through 710.8 in place of the specific requirements stated in those sections provided that:

(a) The alternate VOC reduction system(s) is demonstrated to have at least equivalent results in limiting emissions of VOCs as would the application of the requirements of those sections; and

(b) The alternate system(s) shall be approved by the Department.

710.12 All containers holding or conveying VOC-containing materials shall be open only when necessary and openings shall be restricted to the extent feasible.

710.13 The leaking of any solvent or solvent-containing materials from any printing unit or associated equipment shall be prohibited.

710.14 The storage or disposal of any solvent or solvent-containing material, including waste material, in a manner that will cause or allow its evaporation into the atmosphere shall be prohibited.

710.15 To the greatest extent feasible, persons operating printing units and associated equipment shall minimize their use of VOC-containing materials by restricting wasteful usage and by replacing the material with emulsions or other materials.

710.16 For establishments to which § 710.5 through 710.8 apply, but within which one (1) or more printing units is demonstrated to be unable to comply or cannot feasibly comply, any person owning or operating the establishment may bring it into compliance by reducing VOC emissions from other printing units within the establishment as follows:

(a) In a ratio of five (5) units of reduced emissions for each one (1) unit of excess emissions for operations during the months of April, May, June, July, August, and September;

(b) In a ratio of one (1) unit of reduced emissions for each one (1) unit of excess emissions for operations during the months of October, November, December, January, February and March; and

(c) Provided, that:

(1) The owner or operator demonstrates to the Department that the reduction ratio is met by the proposed trade;

(2) The Department approves the proposed trade; and

(3) The proposed trade is legally enforceable against the owner and operator of the establishment.

# 714 CONTROL TECHNIQUES GUIDELINES (CTGs)

714.1 Any person who owns, operates, or leases any combination of articles, machines, units, equipment, or other contrivances at a facility whose actual VOC emissions before control devices from all units within any one (1) Control Techniques Guidelines (CTGs) category specified in § 714.3 are:

(a) More than fifteen pounds (15 lbs) in any one (1) day, or more than three pounds (3 lbs) in any one (1) hour, shall be subject to the provisions of this section through §714.8(a) and shall reduce the uncontrolled VOC emissions by at least ninety percent (90%) overall capture and control efficiency; or

(b) Less than fifteen pounds (15 lbs) in any one (1) day, and less than three pounds (3 lb.) in any one (1) hour, shall be subject to § 714.8(b).

714.2 Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in § 714.1(a) will remain subject to these provisions even if its throughput or emissions have fallen or later fall below the applicability threshold.

714.3 The following source categories covered by a CTG issued by the EPA in the Federal Register in a final rule or in a notice of final determination and availability of a final CTG are subject to this section:

(a) Miscellaneous Metal Product and Plastic Parts Surface Coatings, where, for the purposes of this section, a source performs surface coating of miscellaneous metal and plastic parts at a manufacturing facility or on a contract basis, except:

(1) VOC emissions addressed by § 718 (Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations), to the extent the coatings are used to repair and refinish mobile equipment components; and

(2) VOC emissions addressed by §§ 773 to 778 (AIM), to the extent the coatings are used on buildings or structures for architectural and industrial maintenance purposes;

(b) Large Appliance Coatings, where, for the purposes of this section, a source uses paints, topcoats, basecoats, sealants, caulks, inks, primers, enamels, adhesives, maskants, and other such materials in the manufacture of large appliance parts or products at a large appliance coatings facility; and

(c) Metal Furniture Coatings, where, for the purposes of this section, a source applies coatings to metal furniture surface coating units at a metal furniture manufacturing facility.

714.4 Any person to whom § 714.3 applies may, by notifying the Department of their request with the application for a permit, propose the following:

(a) An acceptable RACT emission limit, as recommended in the applicable CTG document; or

(b) Use of low-VOC materials with add-on controls that will reduce emissions, as recommended in the applicable CTG document.

714.5 If a person makes a request under § 714.4, the Department will:

(a) Approve, deny, or modify each request for an alternative to § 714.1(a) as RACT, and approve a request only if it meets the recommendation in the applicable CTG; and

(b) Incorporate each approved RACT determination in a permit and submit the RACT determination to the EPA for approval as a SIP revision.

714.6 As an alternative to § 714.4, any person to whom § 714.3 applies may propose RACT based on a source-specific RACT analysis, in accordance with § 715.5 through 715.7.

714.7 No person subject to § 714.1(a) shall use, handle, store, or dispose of VOC-containing materials, coatings, paints, topcoats, basecoats, sealants, caulks, inks, primers, enamels, adhesives, maskants, solvents, industrial cleaning solvents, and waste materials unless the person:

(a) Stores all VOC-containing materials, coatings, solvents, industrial cleaning solvents, inks, adhesives, and waste materials in closed containers except when depositing or removing these materials;

(b) Minimizes spills of VOC-containing materials;

(c) Cleans up spills immediately;

(d) Conveys any VOC-containing materials, coatings, solvents, industrial cleaning solvents, inks, adhesives, and waste materials in closed containers or pipes;

(e) Closes mixed vessels, which contain VOC-containing materials, coatings, solvents, industrial cleaning solvents, inks, and adhesives except when they are specifically in use;

(f) Minimizes emissions of VOCs during cleaning of storage, mixing, conveying, and other equipment; and

(g) Stores cloth and paper, or other absorbent applicators, moistened with coatings, solvents, or cleaning solvents in closed, nonabsorbent, non-leaking containers.

714.8 Any person who owns, operates, or leases any combination of articles, machines, units, equipment, or other contrivances at a facility:

(a) Subject to § 714.1(a) shall keep records as may be necessary to determine emissions and compliance with the applicable limitation or control requirement as follows:

(1) The records shall provide sufficient data and calculations to demonstrate clearly that the emission limitations or control requirements are met;

(2) Data or information required to determine compliance with an applicable limitation shall be recorded and maintained in a time frame consistent with the averaging period of the standard; and

(3) The records shall be retained at least two (2) years from when they were originated and shall be made available to the Department on request; or

(b) Subject to § 714.1(b) shall maintain records that clearly demonstrate to the Department that the facility's emissions are below the applicability threshold.

SOURCE: Section 2 of the Gasoline Reid Vapor Pressure Requirements Act of 1990, effective March 8, 1991 (D.C. Law 8-238; 38 DCR 331 (January 11, 1991)); as amended by Final Rulemaking published at 58 DCR 11286, 11293 (December 30, 2011); as amended by Final Rulemaking published at 63 DCR 15095 (December 9, 2016).

## 715 MAJOR SOURCE AND CASE-BY-CASE REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT)

715.1 Calculation of source emissions of VOCs to determine applicability of a regulation of this section shall be based on the following:

(a) The theoretical potential to emit (design capacity or maximum production and maximum potential operating hours) before add-on controls; and

(b) The sum of all emissions from individual emission sources within the same control techniques guideline (CTG) category, except for petroleum/gasoline marketing, in which emissions from storage tanks, terminals, and loading racks within the same plant or site shall be summed.

715.2 Major Source and Case-by-Case Reasonably Available Control Technology (RACT) shall be applied if the theoretical potential plant-wide emissions are, or have ever been, greater than or equal to twenty-five tons per year (25 tpy).

715.3 For sources for which there is no control technique guideline (CTG), the requirements of this section shall apply in addition to the following:

(a) Theoretical potential emissions from all processes within a plant shall be summed to determine applicability of RACT;

(b) RACT shall be evaluated for all processes in the plant if theoretical potential emissions as determined by this section are greater than or equal to twenty- five tons per year (25 tpy); and

(c) RACT is not applicable if physical or operational limitations on the capacity of the source to emit are federally enforceable.

715.4 Any person to which § 715.1 through 715.3 applies shall propose RACT based on a source-specific RACT analysis, in accordance with § 715.5 through 715.7.

715.5 To propose source-specific RACT, any person shall:

(a) Notify the Department of their request for a source-specific RACT

determination with the application for a permit;

(b) Provide associated monitoring, testing, certification, recordkeeping, and reporting procedures in accordance with 20 DCMR chapter 5;

(c) Provide a schedule for achieving compliance with the proposed RACT as expeditiously as practicable; and

(d) Submit the proposed RACT to the Department for approval.

715.6 Any person who prepares and submits a source-specific RACT analysis shall include and provide the Department:

(a) A ranking of the available control options for the affected source in descending order of control effectiveness;

(b) An evaluation of the technical feasibility of the available control options identified in § 715.6(a) based on physical, chemical, and engineering principles, where a determination of technical infeasibility shall identify technical difficulties which would preclude the successful use of the control option on the affected source;

(c) A ranking list of the technically feasible control options in order of overall control effectiveness for VOC emissions that presents the array of control options and shall include, at a minimum, the following information:

(1) The baseline emissions of VOCs before implementation of each control option;

(2) The estimated emission reduction potential or the estimated control efficiency of each control option;

(3) The estimated emissions after the application of each control option; and

(4) The economic impacts of each control option, including both overall cost effectiveness and incremental cost effectiveness;

(d) An evaluation of cost effectiveness of each control option consistent with the "OAQPS Control Cost Manual" (Sixth Edition), EPA/452/B-02-001, January 2002, and subsequent revisions, conducted in accordance with the following requirements:

(1) The cost effectiveness shall be evaluated in terms of dollars per ton of VOC emissions reduction;

(2) The cost effectiveness shall be calculated on average and incremental bases for each option, with average cost effectiveness calculated as the annualized cost of the control option divided by the baseline emissions rate minus the control option emission rate, as shown by the following formula:

Average cost effectiveness ($/ton removed) =
Control option total annualized cost ($/yr) / [Baseline emission rate – Control option rate (tons/yr)]

(3) For purposes of this paragraph, baseline emission rate represents the maximum emissions before the implementation of the control option, and the baseline emissions rate shall be established using either test results or approved emission factors and historic operating data;

(4) For purposes of this paragraph, the incremental cost effectiveness calculation compares the costs and emission level of a control option to those of the next most stringent option, as shown by the following formula:

Incremental Cost (dollars) per incremental ton removed =
[Control option total annualized cost ($/yr) – Total annualized cost of next most stringent control option ($/yr)] / [Next most stringent control option emission rate (ton/yr) – control option emission rate (ton/yr)];

(e) A recommendation of a RACT emission limitation, equipment standard, or control technology for each affected emission source or unit; and

(f) Additional information requested by the Department that is necessary for the evaluation of the RACT proposal.

715.7 The Department will:

(a) Approve, deny, or modify each RACT proposal and will approve each source-specific RACT determination; and

(b) Incorporate each approved RACT determination in a permit and submit the RACT determination to the EPA for approval as a revision to the SIP.

## 716 OFFSET LITHOGRAPHY AND LETTERPRESS PRINTING

716.1 Any person who owns, operates, or leases:

(a) An offset lithography printing operation that is part of any stationary source which emits, or has ever had the theoretical potential to emit, twenty-five (25) or more tons per year of VOCs shall be prohibited from operating the printing operation unless it is in compliance with the requirements of this section, where calculation of the stationary source's theoretical potential to emit shall be pursuant to § 715.1;

(b) After January 1, 2012, any offset lithography or letterpress printing operation which emits VOCs at a rate equal to or greater than fifteen pounds per day (15 lb/day) actual emissions of VOC on a monthly average basis before consideration of controls shall comply with the requirements of this section through § 716.25(a); and

(c) After January 1, 2012, any offset lithography or letterpress printing operation which emits VOCs at a rate less than fifteen pounds per day (15 lb./day) actual emissions of VOC on a monthly average basis before consideration of controls, shall comply with § 716.25(b).

716.2 Any printing operation or press that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in § 716.1(a), 716.1(b), and 716.16 shall remain subject to these provisions even if its throughput or emissions or its theoretical potential to emit has fallen or later falls below the applicability threshold.

716.3 If part or all of any offset lithography or letterpress printing operation involving VOC emissions is not specifically controlled by the requirements of this section, then the VOC-related emission operation or part of the operation shall be governed by the other requirements of this subtitle on air quality.

716.4 This section applies only to the emissions of VOCs; all provisions of this subtitle on air quality other than those restricting the emissions of VOCs apply to the operations regulated by this section.

716.5 Prior to January 1, 2012, no person who owns, operates, or leases an offset lithography printing operation in existence as of December 31, 1985, shall utilize fountain solution in conjunction with printing units with a VOC content in excess of the following limits:

(a) For non-heatset or coldset web printing, twenty percent (20%); and

(b) For heatset web printing, fifteen percent (15%).

716.6 After January 1, 2012, no person who owns, operates, or leases an offset lithography printing operation shall utilize fountain solution in conjunction with printing units in excess of the following limits:

(a) For non-heatset or coldset web printing, five percent (5%) alcohol substitute (by weight) on-press (as-applied) and no alcohol in the fountain solution as determined by EPA Method 24;

(b) For heatset web printing, one and six tenths percent (1.6%) alcohol (by weight) in the fountain or, to achieve an equivalent level of control, any one of the following shall occur:

(1) Reduce the on-press (as-applied) alcohol content to one and six tenths percent (1.6%) alcohol or less (by weight);

(2) Use three percent (3%) alcohol or less (by weight) on-press (as-applied) in the fountain solution, provided the solution is refrigerated to less than sixty degrees Fahrenheit (60° F) or sixteen degrees Celsius (16° C); or

(3) Use an alcohol substitute so that the on-press (as-applied) VOC content is five percent (5%) or less (by weight) as determined by EPA Method 24 and no alcohol is in the fountain solution; or

(c) For sheet-fed printing, five percent (5%) alcohol (by weight) in the fountain or, to achieve an equivalent level of control, any one of the following shall occur:

(1) Reduce the on-press (as-applied) alcohol content to five percent (5%) alcohol or less (by weight);

(2) Use eight and a half percent (8.5%) alcohol or less (by weight) on-press (as-applied) in the fountain solution, provided the solution is refrigerated to less than sixty degrees Fahrenheit (60° F) or sixteen degrees Celsius (16° C); or

(3) Use an alcohol substitute so that the on-press (as-applied) VOC content is five percent (5%) or less (by weight) as determined by EPA Method 24 and no alcohol is in the fountain solution.

716.7 Subsection 716.6 does not apply to:

(a) Sheet-fed presses with maximum size of eleven by seventeen inches (11x17 in.) or smaller; and

(b) Any press with total fountain solution reservoir of less than one gallon (1 gal.).

716.8 No person who owns, operates, or leases a printing operation shall utilize cleaning solutions containing VOCs in conjunction with printing units in excess of:

(a) After May 1, 1999, for any offset lithography printing operation which emits, or has the theoretical potential to emit, twenty-five (25) or more tons per year of VOCs:

Ten millimeters of mercury (10 mm. Hg) at twenty degrees Celsius (20° C) or sixty-eight degrees Fahrenheit (68° F) of VOC composite partial pressure calculated as follows:

$$Pp_c = \frac{\sum_{i=1}^{n} (W_i)(VP_i)/Mw_i}{W_w/Mw_w + \sum_{i=1}^{n} W_e/Mw_e + \sum_{i=1}^{n} W_i/Mw_i}$$

where:

Ppc = VOC composite partial pressure at twenty degrees Celsius (20°C) or sixty-eight degrees Fahrenheit (68° F), in mm Hg;

W*i* = Weight of the "i"th VOC compound, in grams, as determined by ASTM E 260-91;

Ww = Weight of water, in grams as determined by ASTM D 3792-86;

We = Weight of the "i"th exempt compound, in grams, as determined by ASTM E 260-91;

Mw*i* = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature;

Mww = Molecular weight of water, eighteen grams (18 g.) per g-mole;

Mwe = Molecular weight of the "i"th exempt compound, in grams per g-mole, as given in chemical reference literature; and

Vp*i* = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (20° C) or sixty-eight degrees Fahrenheit (68° F), in mm. Hg, as determined by § 747.6; and

(b) One of the following limits after January 1, 2012, for any offset lithography or letterpress printing operation where the emissions

associated with all aspects of that operation equal or exceed fifteen pounds (15 lbs) actual emissions of VOC on a monthly average basis before consideration of controls:

(1) Seventy percent (70%) of VOCs (by weight); or

(2) Ten millimeters of mercury (10 mm. Hg) at twenty degrees Celsius (20° C or 68° F) of VOC composite partial pressure calculated using the formula in §716.8(a).

716.9 Cleaning solutions and shop towels used for cleaning shall be kept in closed containers.

716.10 Subsection 716.8(b) does not apply to:

(a) Up to one hundred and ten gallons (110 gal.) per year of cleaning solutions which meet neither § 716.8(b)(1) or (2); and

(b) Cleaners used on electronic components of a press, pre-press cleaning operations (for example, platemaking), post-press cleaning operations (for example, binding), cleaning supplies (for example, detergents) used to clean the floor (other than dried ink) in the area around a press, or cleaning performed in parts washers or cold cleaners.

716.11 Prior to January 1, 2012, no person who owns, operates, or leases the following printing operations in existence as of December 31, 1985, shall utilize inks in conjunction with printing units if the VOC content of ink is in excess of the following percentages:

(a) Heatset offset lithography, forty percent (40%);

(b) Non-heatset offset lithography, thirty-five percent (35%);

(c) Letterset, forty percent (40%); and

(d) Letterpress, thirty percent (30%).

716.12 For § 716.5 and 716.11:

(a) The percentage VOC content is by weight and applies to the inks and solutions as contained in the storage wells (fountains) of the printing unit, and does not include water;

(b) The percentage VOC content shall be determined in accordance with Procedure B of test method ASTM D-2369-81; where, in lieu of testing the formulated inks and solutions, the individual components of the

formulations may be tested and the VOC content of the formulations may be calculated there from; and

(c) The percentage water content shall be determined in accordance with test method ASTM D-3792-79.

716.13 For establishments to which § 716.5 and 716.11 apply, but within which one (1) or more printing units is demonstrated to be unable to comply or cannot feasibly comply, any person owning or operating the establishment may bring it into compliance by reducing VOC emissions from other printing units within the establishment as follows:

(a) In a ratio of five (5) units of reduced emissions for each one (1) unit of excess emissions for operations during the months of April, May, June, July, August, and September;

(b) In a ratio of one (1) unit of reduced emissions for each one (1) unit of excess emissions for operations during the months of October, November, December, January, February, and March; and

(c) Provided, that:

(1) The owner or operator demonstrates to the Department that the reduction ratio is met by the proposed trade;

(2) The Department approves the proposed trade; and

(3) The proposed trade is legally enforceable against the owner and operator of the establishment.

716.14 Prior to January 1, 2012, no person who owns, operates, or leases a heatset web offset lithography printing operation or heatset web letterpress printing operation in existence as of December 31, 1985, shall utilize dryers unless the VOC emissions are reduced by ninety percent (90%) (by weight) overall through the use of a control device, except in the case of printing units using water-based solvents in the ink used on them.

716.15 Alternative VOC emission reduction systems may be used to attain compliance with § 716.5, 716.11, and 716.14 in place of the specific requirements stated in those sections provided that:

(a) The alternative VOC reduction system(s) is demonstrated to have at least equivalent results in limiting emissions of VOCs as would the application of the requirements of those sections; and

(b) The alternate system(s) shall be approved by the Department.

716.16 No person who owns, operates, or leases an individual heatset web offset lithography printing operation or heatset web letterpress printing operation with a theoretical potential to emit from the dryer of more than twenty-five tons per year (25 tpy) of VOC (petroleum ink oil) before controls shall utilize dryers or inks unless the VOC emissions are reduced by:

(a) Ninety percent (90%) (by weight) overall through the use of a control device whose first installation date was before January 1, 2012;

(b) Ninety-five percent (95%) overall control efficiency for newly installed equipment or for a control device whose first installation date was on or after January 1, 2012; or

(c) If the inlet VOC concentration is so low so that § 716.16(a) or (b) is not achievable, reduce the control device outlet concentration to no greater than twenty parts per million by volume (20 ppmv) as hexane on a dry basis, whichever is less stringent.

716.17 Adding diluent air to the exhaust gas stream for the purpose of complying with § 716.16(a) or (c) shall be prohibited.

716.18 To avoid the applicability of the limits in §716.16(b), the Department may grant a person a federally enforceable limitation on the theoretical potential to emit for any heatset web offset lithography or heatset web letterpress printing operation if the following conditions are met:

(a) The Department shall assume that twenty percent (20%) of the VOC in the inks and coatings remains in the paper web, and the volume of inks and coatings used in any heatset web offset lithography or heatset web letterpress printing operation contains less than thirty-one and one quarter tons per year (31.25 tpy) VOC (petroleum ink oil);

(b) The person applies for the enforceable limitation on the theoretical potential to emit with a permit application; and

(c) The Department shall review and approve each proposal in a permit and submit the permit to the EPA for approval as a revision to the SIP.

716.19 Subsection 716.16 does not apply to:

(a) Heatset offset lithographic and letterpress presses used for book printing;

(b) Heatset offset lithographic and letterpress presses with maximum web width of twenty-two inches (22 in.) or less; or

(c) Sheet-fed or coldset web inks, sheet-fed or coldset web varnishes, waterborne coatings, or radiation (ultra-violet light or electronic beam) cured materials used on offset lithographic or letterpress presses.

716.20 Any person to which § 716.16 applies shall install, calibrate, maintain, and operate a temperature monitoring device, according to the manufacturer's instructions, at the outlet of the control device, where:

(a) The monitoring temperature shall be set during the testing required to demonstrate compliance with the applicable emission standard;

(b) Monitoring shall be performed only when the unit is operational;

(c) The temperature monitoring device shall be equipped with a continuous recorder, with recordings taken at a minimum of every fifteen (15) minutes, and shall have an accuracy of five tenths of a degree Fahrenheit (0.5° F) or negative seventeen and one half degrees Celsius (-17.5° C);

(d) The dryer pressure shall be maintained lower than the press room air pressure such that air flows into the dryer at all times when the printing unit is operating; and

(e) One hundred percent (100%) emissions capture efficiency for the dryer shall be demonstrated using an air flow direction measuring device, pursuant to a periodic monitoring strategy approved by the Department.

716.21 Each person who owns, operates, or leases an offset lithography or letterpress printing operation shall assure that all containers holding VOC-containing materials shall be open only when necessary and openings shall be restricted to the extent feasible.

716.22 No person who owns, operates, or leases an offset lithography or letterpress printing operation shall allow the leaking of any VOC or VOC-containing material from any printing unit or associated equipment.

716.23 No person who owns, operates, or leases an offset lithography or letterpress printing operation shall allow the storage or disposal of any VOC or VOC-containing material, including waste material, in a manner that will cause or allow its evaporation into the atmosphere.

716.24 To the greatest extent feasible, persons operating an offset lithography or letterpress printing units and associated equipment shall minimize their use of VOC-containing materials by restricting wasteful usage and by replacing materials with emulsions or other materials.

716.25 Any person who owns, operates, or leases any press:

emissions and compliance with the applicable limitation or control requirement as follows:

(1) The records shall provide sufficient data and calculations to demonstrate clearly that the emission limitations or control requirements are met;

(2) Data or information required to determine compliance with an applicable limitation shall be recorded and maintained in a time frame consistent with the averaging period of the standard; and

(3) The records shall be retained at least three (3) years from when they were originated and shall be made available to the Department on request; or

(b) Subject to § 716.1(c) shall maintain records that clearly demonstrate to the Department that the facility's emissions are below the applicability threshold, or that material use is beneath a threshold that meets the compliance requirements.