ILLINOIS POLLUTION CONTROL BOARD
September 9, 1993

IN THE MATTER OF:	)	
	)	
OMNIBUS CLEANUP OF THE VOLATILE	)	
ORGANIC MATERIAL RACT RULES	)	R93-9
APPLICABLE TO OZONE NONATTAINMENT	)	(Rulemaking)
AREAS: AMENDMENTS TO 35 ILL. ADM.	)	
CODE PARTS 203, 211, 218 AND 219.	)	

Adopted Rule. Final Order.

ORDER OF THE BOARD (by B. Forcade):

On March 16, 1993, the Illinois Environmental Protection Agency (Agency) filed this proposal for rule making. This proposal was filed pursuant to section 28.5 of the Environmental Protection Act. (415 ILCS 5/28.5 (1992).) The proposal represents one part of Illinois' submittal of a complete state implementation plan (SIP). Pursuant to section 182(a) of the Clean Air Act (CAA), as amended in 1990, Illinois was to adopt and submit its plan by November 15, 1992. The Board adopted the First Notice Opinion and Order in this proceeding without comment on the substance of the rule on March 25, 1993. The proposed amendments were published in the Illinois Register on April 9, 1993 at 17 Ill. Reg. 4782 (Part 211), 17 Ill. Reg. 4898 (Part 203), 17 Ill. Reg. 4905 (Part 218) and 17 Ill. Reg. 5169 (Part 219). A correction to the proposed rules, adding some pages of the proposed rule that were omitted from the initial publication, was published in the Illinois Register on April 23, 1993 at 17 Ill. Reg. 6520 (Part 218) and 17 Ill. Reg. 6539 (Part 219). On July 22, 1993, the Board adopted the second notice opinion and order and submitted the second notice to the Joint Committee on Administrative Review (JCAR). A certification of no objection from JCAR was received on August 30, 1993.

Today the Board acts to adopt this proposal. This order is supported by a separate opinion adopted on the same day. The Board directs the Clerk of the Board to cause the filing of the following adopted amendments with the Code Division of the Secretary of State's Office. The complete text of the proposed rules follows.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, do hereby certify that the above order was adopted by the Board on the 9th day of September, 1993, by a vote of 7-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE B: AIR POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER a: PERMITS AND GENERAL PROVISIONS

PART 203
MAJOR STATIONARY SOURCES CONSTRUCTION AND MODIFICATION

SUBPART A: GENERAL PROVISIONS

Section

SUBPART B: MAJOR STATIONARY SOURCES IN NONATTAINMENT AREAS

Section

SUBPART C: REQUIREMENTS FOR MAJOR STATIONARY SOURCES IN NONATTAINMENT AREAS

SUBPART F: OPERATION OF A MAJOR STATIONARY SOURCE OR MAJOR MODIFICATION

Section

SUBPART G: GENERAL MAINTENANCE OF EMISSION OFFSETS

Section

SUBPART H: OFFSETS FOR EMISSION INCREASES FROM ROCKET ENGINES AND MOTOR FIRING

Section

AUTHORITY: Implementing Section 9.1 and 10 and authorized by Section 27 and 28.5 of the Environmental Protection Act (Ill. Rev. Stat. 1991, ch. 111½, pars. 1009.1, 1010 and 1027) (P.A. 87-1213, effective September 26, 1992) [415 ILCS 5/9.1, 10, 27, and 28.5].

SOURCE: Adopted and codified at 7 Ill. Reg. 9344, effective July 22, 1983; codified at 7 Ill. Reg. 13588; amended in R85-20 at 12 Ill. Reg. 6118, effective March 22, 1988; amended in R91-24 at 16 Ill. Reg. 13551, effective August 24, 1992; amended in R92-21 at 17 Ill. Reg. 6973, effective April 30, 1993; amended in R93- _____ at 17 Ill. Reg. _________, effective _______________________.

Section 203.145 Volatile Organic Material (Repealed)

~~"Volatile organic material" (VOM) means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium arbonate, which participates in atmospheric photochemical reactions.~~

~~a) This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity: Methane; ethane; methylene chloride (dichlormethane), 1,1,1 trichlorethane (methyl chloroform), 1,1,1 trichloro 2,2,2 trifluoroethane (CFC 113); trichlorofluoromethane (CFC 11); dichlorodifluoromethane (CFC 12); chlorodifluoromethane (CFC 22); trifluoromethane (FC 23); 1,2 dichloro 1,1,2,2 tetrafluoroethane (CFC 114); cloropentafluoroethane (CFC 115); 1,1,1 trifluoro 2,2 dichloroethane (HCFC 123); 1,1,12 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 difluroethane (HFC 152a); and perfluorocarbon compounds which fall into these classes:~~

~~1) Cyclic, branched, or linear, completely fluorinated alkanes;~~

~~2) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations,~~

~~3) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and~~

~~4) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluroine.~~

~~b) For purposes of determining VOM emissions and compliance with emissions limits, VOM will be measured by the test methods in the approved implementation plan or 40 CFR Part 60, Appendix A, incorporated by reference at Sections 215.105, 218.112, and 219.112, as applicable or by source specific test methods which have been established pursuant to a permit issued pursuant to a program approved or promulgated under Title V of the Clean Air Act or under 40 CFR Part 51, Subpart I or Appendix S, incorporated by reference at Sections 218.112 and 219.112 or under 40 CFR Part~~

~~52.21, incorporated by reference at Sections 218.112 and 219.112, as applicable. Where such a method also measures compounds with negligible photochemical reactivity, these negligibly reactive compounds may be excluded as VOM if the amount of such compounds is accurately quantified, and such exclusions is approved by the Agency.~~

~~c) As a precondition to excluding these negligibly reactive compounds as VOM or at any time thereafter, the Agency may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the Agency, the amount of negligibly reactive compounds in the sources's emissions.~~

~~d) The USEPA shall not be bound by any State determination as to appropriate methods for testing or monitoring negligibly reactive compounds if such determination is not reflected in any of the provisions of paragraph (2).~~

(Source: Repealed at _____ Ill. Reg. _____, effective_____________ _________)

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE B: AIR POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER c: EMISSION STANDARDS AND LIMITATIONS
FOR STATIONARY SOURCES

PART 211
DEFINITIONS AND GENERAL PROVISIONS

SUBPART A: GENERAL PROVISIONS

Section

SUBPART B: DEFINITIONS

Section

AUTHORITY: Implementing Sections 9, 9.1 and 10 and authorized by Section 27 and 28.5 of the Environmental Protection Act (Ill. Rev. Stat. 1991, ch. 111½, pars. 1009, 1009.1, 1010 and 1027), (P.A. 87-1213, effective September 26, 1992) [415 ILCS 5/9, 9.1, 10, 27 and 28.5].

SOURCE: Adopted as Chapter 2: Air Pollution, Rule 201: Definitions, R71-23, 4 PCB 191, filed and effective April 14, 1972; amended in R74-2 and R75-5, 32 PCB 295, at 3 Ill. Reg. 5, p. 777, effective February 3, 1979; amended in R78-3 and 4, 35 PCB 75 and 243, at 3 Ill. Reg. 30, p. 124, effective July 28, 1979; amended in R80-5, at 7 Ill. Reg. 1244, effective January 21, 1983; codified at 7 Ill. Reg. 13590; amended in R82-1 (Docket A) at 10 Ill. Reg. 12624, effective July 7, 1986; amended in R85-21(A) at 11 Ill. Reg. 11747, effective June 29, 1987; amended in R86-34 at 11 Ill. Reg. 12267, effective July 10, 1987; amended in R86-39 at 11 Ill. Reg. 20804, effective December 14, 1987; amended in R82-14 and R86-37 at 12 Ill. Reg. 787, effective December 24, 1987; amended in R86-18 at 12 Ill. Reg. 7284, effective April 8, 1988; amended in R86-10 at 12 Ill. Reg. 7621, effective April 11, 1988; amended in R88-23 at 13 Ill. Reg. 10862, effective June 27, 1989; amended in R89-8 at 13 Ill. Reg. 17457, effective January 1, 1990; amended in R89-16(A) at 14 Ill. Reg. 9141, effective May 23, 1990; amended in R88-30(B) at 15 Ill. Reg. 5223, effective March 28, 1991; amended in R88-14 at 15 Ill. Reg. 7901, effective May 14, 1991; amended in R91-10 at 15 Ill. Reg. 15564, effective October 11, 1991; amended in R91-6 at 15 Ill. Reg. 15673, effective October 14, 1991; amended in R91-22 at 16 Ill. Reg. 7656, effective May 1, 1992; amended in R91-24 at 16 Ill. Reg. 13526, effective August 24, 1992; amended in R93-___ at 17 Ill. Reg. ______, effective ______________________________.

Section 211.102 Abbreviations and Units

a) Abbreviations used in this Part include the following:

ASTM	American Society for Testing and Materials
bbl	barrels (42 gallons)
btu	British thermal units (60°F)
°C	degrees Celsius or centigrade
cm	centimeters
cu in	cubic inches
°F	degrees Fahrenheit
FIP	Federal Implementation Plan

ft	feet
ft^2	square feet
g	grams
gpm	gallons per minute
g/mole	grams per mole
gal	gallons
hr	hours
in	inch
°K	degrees Kelvin
kcal	kilocalories
kg	kilograms
kg/hr	kilograms per hour
kPa	kilopascals; one thousand newtons per square meter
l	liters
l/sec	liters per second
lbs	pounds
lbs/hr	pounds per hour
lbs/gal	pounds per gallon
LEL	lower explosive limit
m	meters
m^2	square meters
m^3	cubic meters
mg	milligrams
Mg	Megagrams, metric tons or tonnes
ml	milliliters
min	minutes
MJ	megajoules
mmHg	millimeters of mercury
NDO	natural draft opening
ppm (vol)	parts per million
ppmv	parts per million by volume
psi	pounds per square inch
psia	pounds per square inch absolute
psig	pounds per square inch gauge
RACT	reasonably available control technology
scf	standard cubic feet
scm	standard cubic meters
sec	seconds
SIP	State Implementation Plan
TTE	temporary total enclosure
sq cm	square centimeters
sq in	square inches
T	short ton (2,000 lbs)
ton	short ton (2,000 lbs)
USEPA	United States Environmental Protection Agency
VOC	volatile organic compounds
VOL	volatile organic liquids
VOM	volatile organic materials

b) The following conversion factors are used in this Part.

English	Metric
1 gal	3.785 l
1,000 gal	3,785 l or 3.785 m^3
1 psia	6.897 kPa (51.71 mmHg)
2.205 lbs	1 kg
32°	0°C (273.15° K)
1 bbl	159.0 l
1 cu in	16.39 ml
1 lb/gal	119,800 mg/l
1 ton	0.907 Mg
1 T	0.907 Mg

(Source: Amended at ___ Ill. Reg. ______, effective ______________ ________________)

SUBPART B: DEFINITIONS

Section 211.121 Other Definitions

All terms defined in 35 Ill. Adm. Code 201 which appear in 35 Ill. Adm. Code 211 ~~-217~~ through 219 have the definitions specified by 35 Ill. Adm. Code 201.102. Otherwise the definitions in ~~Section 211.122~~ this Part shall apply.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ ________________)

Section 211.122 Definitions (Repealed)

~~"Accelacota": a pharmaceutical coating operation which consists of a horizontally rotating perforated drum in which tablets are placed, a coating is applied by spraying and the coating is dried by the flow of air across the drum through the perforations.~~

~~"Accumulator": The reservoir of a condensing unit receiving the condensate from a surface condenser.~~

~~"Acid Gases": For the purposes of Section 9.4 of the Environmental Protection Act (the Act) (Ill. Rev. Stat. 1987, ch. 111½, par. 1009.4), hydrogen chloride, hydrogen fluoride and hydrogen bromide, which exist as gases, liquid mist, or any combination thereof.~~

~~"Actual Heat Input": The quantity of heat produced by the combustion of fuel using the gross heating value of the fuel.~~

~~"Aeration": The practice of forcing air through bulk stored grain to maintain the condition of the grain.~~

~~"Afterburner": A device in which materials in gaseous effluents are combusted.~~

~~"Air Dried Coating": Coatings that dry by the use of air or forced air at temperatures up to 363.15° K (194° F).~~

~~"Air suspension coater/dryer": a pharmaceutical coating operation which consists of vertical chambers in which tablets or particles are placed, and a coating is applied and then dried while the tablets or particles are kept in a fluidized state by the passage of air upward through the chambers.~~

~~"Annual Grain Through-Put": Unless otherwise shown by the owner or operator, annual grain through-put for grain-handling operations, which have been in operation for three consecutive years prior to June 30, 1975, shall be determined by adding grain receipts and shipments for the three previous fiscal years and dividing the total by 6. The annual grain through-put for grain-handling operations in operation for less than three consecutive years prior to June 30, 1975, shall be determined by a reasonable three-year estimate; the owner or operator shall document the reasonableness of his three-year estimate.~~

~~"Architectural Coating": Any coating used for residential or commercial buildings or their appurtenances, or for industrial buildings which is site applied.~~

~~"Asphalt": The dark-brown to black cementitious material (solid, semisolid or liquid in consistency) of which the main constituents are bitumens which occur naturally or as a residue of petroleum refining.~~

~~"Asphalt Prime Coat": A low-viscosity liquid asphalt applied to an absorbent surface as the first of more than one asphalt coat.~~

~~"Automobile": Any first division motor vehicle as that term is defined in the Illinois Vehicle Code (Ill. Rev. Stat. 1987, ch. 95½, pars 1-100 et seq.).~~

~~"Automobile or Light-Duty Truck Manufacturing Plant": A facility where parts are manufactured or finished for eventual inclusion into a finished automobile or light-duty truck ready for sale to vehicle dealers, but~~

~~not including customizers, body shops and other repainters.~~

~~"Automobile or Light Duty Truck Refinishing": The repainting of used automobiles or light duty trucks.~~

~~"Batch Loading": The process of loading a number of individual parts at the same time for degreasing.~~

~~"Bead-Dipping": The dipping of an assembled tire bead into a solvent-based cement.~~

~~"British Thermal Unit": The quantity of heat required to raise one pound of water from 60° F to 61° F (abbreviated btu).~~

~~"Bulk Gasoline Plant": Any gasoline storage and distribution facility that receives gasoline from bulk gasoline terminals by delivery vessels and distributes gasoline to gasoline dispensing facilities.~~

~~"Bulk Gasoline Terminal": Any gasoline storage and distribution facility that receives gasoline by pipeline, ship or barge, and distributes gasoline to bulk gasoline plants or gasoline dispensing facilities.~~

~~"Can Coating": The application of a coating material to a single walled container that is manufactured from metal sheets thinner than 29 gauge (0.0141 in).~~

~~"Certified Investigation": A report signed by Illinois Environmental Protection Agency (Agency) personnel certifying whether a grain-handling operation (or portion thereof) or grain-drying operation is causing or tending to cause air pollution. Such report must describe the signatory's investigation, including a summary of those facts on which he relies to certify whether the grain-handling or grain-drying operation is causing or threatening or allowing the discharge or emission of any contaminant into the environment so as to cause or tend to cause air pollution in Illinois, either alone or in combination with contaminants from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board (Board) under the Environmental Protection Act (Act). The certified investigation shall be open to a reasonable public inspection and may be copied upon payment of the actual cost of reproducing the original.~~

~~"Choke Loading": That method of transferring grain from the grain-handling operation to any vehicle for shipment or delivery which precludes a free fall~~

~~velocity of grain from a discharge spout into the receiving container.~~

~~"Cleaning and Separating Operation": That operation where foreign and undesired substances are removed from the grain.~~

~~"Clear Coating": Coatings that lack color and opacity or are transparent using the undercoat as a reflectant base or undertone color.~~

~~"Closed Purge System": A system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow inducing devices that transport liquid or vapor from a piece or pieces of equipment to a control device, or return the liquid or vapor to the process line.~~

~~"Closed Vent System": A system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device, or return the gas or vapor to the process line.~~

~~"Coal Refuse": Waste products of coal mining, cleaning and coal preparation operations containing coal, matrix material, clay and other organic and inorganic material.~~

~~"Coating": For purposes of this Part, a coating includes a material applied to a substrate for decorative, protective or other functional purposes. Such material shall include, but are not limited to paints, varnishes, sealers, adhesives, diluents and thinners.~~

~~"Coating Applicator": Equipment used to apply a surface coating.~~

~~"Coating Line": An operation where a surface coating is applied to a material and subsequently the coating is dried and/or cured.~~

~~"Coating Plant": Any building, structure or installation that contains a coating line and which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control).~~

~~"Coil Coating": The application of a coating material to any flat metal sheet or strip that comes in rolls or coils.~~

~~"Cold Cleaning": The process of cleaning and removing soils from surfaces by spraying, brushing, flushing or immersion while maintaining the organic solvent below its boiling point. Wipe cleaning is not included in this definition.~~

~~"Complete Combustion": A process in which all carbon contained in a fuel or gas stream is converted to carbon dioxide.~~

~~"Component": Any piece of equipment which has the potential to leak volatile organic material including, but not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains and open ended valves. This definition excludes valves which are not externally regulated, flanges, and equipment in heavy liquid service. For purposes of 35 Ill. Adm. Code 215. Subpart Q, this definition also excludes bleed ports of gear pumps in polymer service.~~

~~"Concentrated Nitric Acid Manufacturing Process": Any acid producing facility manufacturing nitric acid with a concentration equal to or greater than 70 percent by weight.~~

~~"Condensate": Hydrocarbon liquid separated from its associated gasses which condenses due to changes in the temperature or pressure and remains liquid at standard conditions.~~

~~"Condensible PM-10": PM-10 formed immediately or shortly after discharge to the atmosphere, as measured by the applicable test method specified in 35 Ill. Adm. Code 212.110. Condensible particulate matter exists in gaseous and/or vapor form prior to release to the atmosphere, e.g., in the stack, and forms particulate matter upon condensation when subject to conditions of cooling and dilution in the atmosphere.~~

~~"Control Device": Equipment, such as an afterburner, adsorber, scrubber, condenser, cyclone or baghouse used to remove or prevent the emission of air pollutants from a contaminated exhaust stream. For purposes of 35 Ill. Adm. Code 215, Subpart Q, an enclosed combustion device, vapor recovery system, flare, or closed container.~~

~~"Conveyorized Degreasing": The continuous process of cleaning and removing soils from surfaces utilizing either cold or vaporized solvents.~~

~~"Crude Oil": A naturally occurring mixture which consists of hydrocarbons and sulfur, nitrogen or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.~~

~~"Crude Oil Gathering": The transportation of crude oil or condensate after custody transfer between a production facility and a reception point.~~

~~"Crushing": The fragmentation of non-metallic minerals by a machine such as a jaw, gyratory, cone, roll, rod, mill, hammermill, and impactor.~~

~~"Custody Transfer": The transfer of produced petroleum and/or condensate after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.~~

~~"Cutback Asphalt": Any asphalt which has been liquified by blending with petroleum solvents other than residual fuel oil and has not been emulsified with water.~~

~~"Degreaser": Any equipment or system used in solvent cleaning.~~

~~"Delivery Vessel": Any tank truck or trailer equipped with a storage tank that is used for the transport of gasoline to a stationary storage tank at a gasoline dispensing facility, bulk gasoline plant or bulk gasoline terminal.~~

~~"Distillate Fuel Oil": Fuel oils of grade No. 1 or 2 as specified in detailed requirements for fuel oil A.S.T.M. D-369-69 (1971).~~

~~"Dry Cleaning Facility": A facility engaged in the cleaning of fabrics using an essentially nonaqueous solvent by means of one or more solvent washes, extraction of excess solvent by spinning and drying by tumbling in an airstream. The facility includes, but is not limited to, washers, dryers, filter and purification systems, waste disposal systems, holding tanks, pumps and attendant piping and valves.~~

~~"Dump-Pit Area": Any area where grain is received at a grain-handling or grain-drying operation.~~

~~"Effective Grate Area": That area of a dump-pit grate through which air passes, or would pass, when aspirated.~~

~~"Effluent Water Separator": Any tank, box, sump or other apparatus in which any organic material floating on or entrained or contained in water entering such tank, box, sump or other apparatus is physically separated and removed from such water prior to outfall, drainage or recovery of such water.~~

~~"Emission Rate": Total quantity of any air contaminant discharge into the atmosphere in any one-hour period.~~

~~"Enclose": With respect to 35 Ill. Adm. Code 215 Subpart T, to cover any volatile organic liquid surface that is exposed to the atmosphere.~~

~~"End Sealing Compound Coat": A compound applied to can ends which functions as a gasket when the end is assembled on the can.~~

~~"Excess Air": Air supplied in addition to the theoretical quantity necessary for complete combustion of all fuel and/or combustible waste material.~~

~~"Excessive Release": A discharge of more than 295g (0.65 pounds) of mercaptans or hydrogen sulfide into the atmosphere in any five minute period.~~

~~"Existing Grain-Drying Operation": Any grain-drying operation the construction or modification of which was commenced prior to June 30, 1975.~~

~~"Existing Grain-Handling Operation": Any grain-handling operation the construction or modification of which was commenced prior to June 30, 1975.~~

~~"Exterior Base Coat": An initial coating applied to the exterior of a can after the can body has been formed.~~

~~"Exterior End Coat": A coating applied by rollers or spraying to the exterior end of a can.~~

~~"External Floating Roof": A storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which is supported by the petroleum liquid being contained and is equipped with a closure seal between the deck edge and tank wall.~~

~~"Extreme Performance Coating": Coatings designed for exposure to any of the following: the ambient weather conditions, temperatures above 368.15° K (203° F), detergents, abrasive and scouring agents, solvents, corrosive atmospheres, or other similar extreme environmental conditions.~~

~~"Fabric Coating": The coating of a textile substrate, including operations where the coating impregnates the substrate.~~

~~"Final Repair Coat": The repainting of any coating which is damaged during vehicle assembly.~~

~~"Firebox": The chamber or compartment of a boiler or furnace in which materials are burned, but not the combustion chamber or afterburner of an incinerator.~~

~~"Flexographic Printing": The application of words, designs and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of elastomeric materials.~~

~~"Floating Roof": A roof on a stationary tank, reservoir or other container which moves vertically upon change in volume of the stored material.~~

~~"Freeboard Height": For open top vapor degreasers, the distance from the top of the vapor zone to the top of the degreaser tank. For cold cleaning degreasers, the distance from the solvent to the top of the degreaser tank.~~

~~"Fuel Combustion Emission Source": Any furnace, boiler or similar equipment used for the primary purpose of producing heat or power by indirect heat transfer.~~

~~"Fuel Gas System": A system for collection of refinery fuel gas including, but not limited to, piping for collecting tail gas from various process units, mixing drums and controls and distribution piping.~~

~~"Fugitive Particulate Matter": Any particulate matter emitted into the atmosphere other than through a stack, provided that nothing in this definition or in 35 Ill. Adm. Code 212.Subpart K shall exempt any source from compliance with other provisions of 35 Ill. Adm. Code 212 otherwise applicable merely because of the absence of a stack.~~

~~"Gas Service": Means that the component contains process fluid that is in the gaseous state at operating conditions.~~

~~"Gasoline": Any petroleum distillate having a Reid vapor pressure of 4 pounds or greater.~~

~~"Gasoline Dispensing Facility": Any site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline tank used to provide fuel to the engine of that motor vehicle.~~

~~"Grain": The whole kernel or seed of corn, wheat, oats, soybeans and any other cereal or oil seed plant; and the normal fines, dust and foreign matter which results from harvesting, handling or conditioning. The grain shall be unaltered by grinding or processing.~~

~~"Grain-Drying Operation": Any operation, excluding aeration, by which moisture is removed from grain and which typically uses forced ventilation with the addition of heat.~~

~~"Grain-Handling and Conditioning Operation": A grain storage facility and its associate grain transfer, cleaning, drying, grinding and mixing operations.~~

~~"Grain-Handling Operation": Any operation where one or more of the following grain-related processes (other than grain-drying operation, portable grain-handling equipment, one-turn storage space, and excluding flour mills and feed mills) are performed: receiving, shipping, transferring, storing, mixing or treating of grain or other processes pursuant to normal grain operations.~~

~~"Green Tire Spraying": The spraying of green tires, both inside and outside, with release compounds which help remove air from the tire during molding and prevent the tire from sticking to the mold after curing.~~

~~"Green Tires": Assembled tires before molding and curing have occurred.~~

~~"Gross Heating Value": Amount of heat produced when a unit quantity of fuel is burned to carbon dioxide and water vapor, and the water vapor condensed as described in A.S.T.M. D-2015-66, D-900-55, D-1826-64 and D-240-64.~~

~~"Heavy Liquid": Liquid with a true vapor pressure of less than 0.3 kPa (0.04 psi) at 294.3° K (70° F) or 0.1 Reid Vapor Pressure as determined by A.S.T.M. method D-323; or which when distilled requires a temperature of 300° F or greater to recover 10% of the liquid as determined by A.S.T.M. method D-86.~~

~~"Heavy Metals": For the purposes of Section 9.4 of the Act, elemental, ionic, or combined forms of arsenic, cadmium, mercury, chromium, nickel and lead.~~

~~"Heavy, Off-Highway Vehicle Products": For the purposes of Section 215.204(k), heavy off-highway vehicle products shall include: heavy construction, mining, farming or material handling equipment; heavy industrial engines; diesel-electric locomotives and associated power generation equipment; and the components of such equipment or engines.~~

~~"Hot Well": The reservoir of a condensing unit receiving the condensate from a barometric condenser.~~

~~"Housekeeping Practices": Those activities specifically defined in the list of housekeeping practices developed by the Joint EPA - Industry Task Force and included herein under 35 Ill. Adm. Code 212.461.~~

~~"Incinerator": Combustion apparatus in which refuse is burned.~~

~~"Indirect Heat Transfer": Transfer of heat in such a way that the source of heat does not come into direct contact with process materials.~~

~~"In-Process Tank": A container used for mixing, blending, heating, reacting, holding, crystallizing, evaporating, or cleaning operations in the manufacture of pharmaceuticals.~~

~~"In-situ Sampling Systems": Nonextractive samplers or in-line samplers.~~

~~"Interior Body Spray Coat": A coating applied by spray to the interior of a can after the can body has been formed.~~

~~"Internal Transferring Area": Areas and associated equipment used for conveying grain among the various grain operations.~~

~~"Large Appliance Coating": The application of a coating material to the component metal parts (including but not limited to doors, cases, lids, panels and interior support parts) of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners and other similar products.~~

~~"Light-Duty Truck": Any second division motor vehicle, as that term is defined in the Illinois Vehicle Code, (Ill. Rev. Stat. 1989, ch. 95½, pars. 1-100 et seq.) weighing less than 3854 kilograms (8500 pounds) gross.~~

~~"Liquid-Mounted Seal": A primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof edge around the circumference of the roof.~~

~~"Liquid Service": Means that the equipment or component contains process fluid that is in a liquid state at operating conditions.~~

~~"Liquids Dripping": Any visible leaking from a seal including spraying, misting, clouding and ice formation.~~

~~"Load-Out Area": Any area where grain is transferred from the grain-handling operation to any vehicle for shipment or delivery.~~

~~"Low Solvent Coating": A coating which contains less organic solvent than the conventional coatings used by the industry. Low solvent coatings include water-borne, higher solids, electro-deposition and powder coatings.~~

~~"Magnet Wire Coating": The application of a coating of electrically insulating varnish or enamel to conducting wire to be used in electrical machinery.~~

~~"Major Dump Pit": Any dump pit with an annual grain through-put of more than 300,000 bushels, or which receives more than 40% of the annual grain through-put of the grain-handling operation.~~

~~"Major Metropolitan Area (MMA)": Any county or group of counties which is defined by the following Table:~~

~~MAJOR METROPOLITAN AREAS IN ILLINOIS (MMA's)~~

~~MMA COUNTIES INCLUDED IN MMA~~

~~Champaign-Urbana~~	~~Champaign~~
~~Chicago~~	~~Cook, Lake, Will, DuPage, McHenry, Kane, Grundy, Kendall, Kankakee~~
~~Decatur~~	~~Macon~~
~~Peoria~~	~~Peoria, Tazewell~~
~~Rockford~~	~~Winnebago~~
~~Rock Island -- Moline~~	~~Rock Island~~
~~Springfield~~	~~Sangamon~~
~~St. Louis (Illinois)~~	~~St. Clair, Madison~~
~~Bloomington -- Normal~~	~~McLean~~

~~"Major Population Area (MPA)": Areas of major population concentration in Illinois, as described below:~~

~~The area within the counties of Cook; Lake; DuPage; Will; the townships of Burton, Richmond, McHenry, Greenwood, Nunda, Door, Algonquin, Grafton and the municipality of Woodstock, plus a zone extending two miles beyond the boundary of said municipality located in McHenry County; the townships of Dundee, Rutland, Elgin, Plato, St. Charles, Campton, Geneva, Blackberry, Batavia, Sugar Creek and Aurora located in Kane County; and the municipalities of Kankakee, Bradley and Bourbonnais, plus a zone extending two miles beyond the boundaries of said municipalities in Kankakee County.~~

~~The area within the municipalities of Rockford and Loves Park, plus a zone extending two miles beyond the boundaries of said municipalities.~~

~~The area within the municipalities of Rock Island, Moline, East Moline, Carbon Cliff, Milan, Oak Grove, Silvis, Hampton, Greenwood and Coal Valley, plus a zone extending two miles beyond the boundaries of said municipalities.~~

~~The area within the municipalities of Galesburg and East Galesburg, plus a zone extending two miles beyond the boundaries of said municipalities.~~

~~The area within the municipalities of Bartonville, Peoria and Peoria Heights, plus a zone extending two miles beyond the boundaries of said municipalities.~~

~~The area within the municipalities of Pekin, North Pekin, Marquette Heights, Creve Coeur and East Peoria, plus a zone extending two miles beyond the boundaries of said municipalities.~~

~~The area within the municipalities of Bloomington and Normal, plus a zone extending two miles beyond the boundaries of said municipalities.~~

~~The area within the municipalities of Champaign, Urbana and Savoy, plus a zone extending two miles beyond the boundaries of said municipalities.~~

~~The area within the municipalities of Decatur, Mt. Zion, Harristown and Forsyth, plus a zone extending two miles beyond the boundaries of said municipalities.~~

~~The area within the municipalities of Springfield, Leland Grove, Jerome, Southern View, Grandview, Sherman and Chatham, plus a zone extending two miles beyond the boundaries of said municipalities.~~

~~The area within the townships of Godfrey, Foster, Wood River, Fort Russell, Chouteau, Edwardsville, Venice, Nameoki, Alton, Granite City and Collinsville located in Madison County; and the townships of Stites, Canteen, Centreville, Caseyville, St. Clair, Sugar Loaf and Stookey located in St. Clair County.~~

~~"Manufacturing Process": A process emission source or series of process emission sources used to convert raw materials, feed stocks, subassemblies or other components into a product, either for sale or for use as a component in a subsequent manufacturing process.~~

~~"Marine Terminal": A facility primarily engaged in loading and unloading watercraft.~~

~~"Metal Furniture Coating": The application of a coating material to any furniture piece made of metal or any metal part which is or will be assembled with other metal, wood, fabric, plastic or glass parts to form a furniture piece including, but not limited to, tables, chairs, wastebaskets, beds, desks, lockers, benches, shelving, file cabinets, lamps and room dividers. This definition shall not apply to any coating line coating metal parts or products that is identified under the Standard Industrial Classification Code for Major Groups 33, 34, 35, 36, 37, 38, 39, 40 or 41.~~

~~"Miscellaneous Fabricated Product Manufacturing Process":~~

~~A manufacturing process involving one or more of the following applications, including any drying and curing of formulations, and capable of emitting volatile organic material:~~

~~Adhesives to fabricate or assemble non-furniture components or products~~

~~Asphalt solutions to paper or fiberboard~~

~~Asphalt to paper or felt~~

~~Coatings or dye to leather~~

~~Coatings to plastic~~

~~Coatings to rubber or glass~~

~~Curing of furniture adhesives in an oven which would emit in excess of 10 tons of volatile organic material per year if no air pollution control equipment were used~~

~~Disinfectant material to manufactured items~~

~~Plastic foam scrap or "fluff" from the manufacture of foam containers and packaging material to form resin pellets~~

~~Resin solutions to fiber substances~~

~~Rubber solutions to molds~~

~~Viscose solutions for food casings~~

~~The storage and handling of formulations associated with the process described above.~~

~~The use and handling of organic liquids and other substances for clean-up operations associated with the process described above.~~

~~"Miscellaneous Formulation Manufacturing Process":~~

~~A manufacturing process which compounds one or more of the following and is capable of emitting volatile organic material:~~

~~Adhesives~~

~~Asphalt solutions~~

~~Caulks, sealants or waterproofing agents~~

~~Coatings, other than paint and ink~~

~~Concrete curing compounds~~

~~Dyes~~

~~Friction materials and compounds~~

~~Resin solutions~~

~~Rubber solutions~~

~~Viscose solutions~~

~~The storage and handling of formulations associated with the process described above.~~

~~The use and handling of organic liquids and other substances for clean-up operations associated with the process described above.~~

~~"Miscellaneous Metal Parts and Products": For the purpose of 35 Ill. Adm. Code 215.204, miscellaneous metal parts and products shall include farm machinery, garden machinery, small appliances, commercial machinery, industrial machinery, fabricated metal products and any other industrial category which coats metal parts or products under the Standard Industrial Classification Code for Major Groups 33, 34, 35, 36, 37, 38 or 39 with the exception of the following: coating lines subject to 35 Ill. Adm. Code 215.204(a)-(i) and (k), automobile or light-duty truck refinishing, the exterior of marine vessels and the customized top coating of automobiles and trucks if production is less than thirty-five vehicles per day.~~

~~"Miscellaneous Organic Chemical Manufacturing Process":~~

~~A manufacturing process which produces by chemical reaction, one or more of the following organic compounds or mixtures of organic compounds and which is capable of emitting volatile organic materials:~~

~~Chemicals listed in 35 Ill. Adm. Code 215. Appendix D.~~

~~Chlorinated and sulfonated compounds~~

~~Cosmetic, detergent, soap or surfactant intermediaries or specialties and products~~

~~Disinfectants~~

~~Food additives~~

~~Oil and petroleum product additives~~

~~Plasticizers~~

~~Resins or polymers~~

~~Rubber additives~~

~~Sweeteners~~

~~Varnishes~~

~~The storage and handling of formulations associated with the process described above.~~

~~The use and handling of organic liquids and other substances for clean-up operations associated with the process described above.~~

~~"Mixing Operation": The operation of combining two or more ingredients, of which at least one is a grain.~~

~~"New Grain-Drying Operation": Any grain-drying operation the construction or modification of which is commenced on or after June 30, 1975.~~

~~"New Grain-Handling Operation": Any grain-handling operation the construction of modification of which is commenced on or after June 30, 1975.~~

~~"No Detectable Volatile Organic Material Emissions": A discharge of volatile organic material into the atmosphere as indicated by an instrument reading of less than 500 ppm above background as determined in accordance with 40 CFR 60.485(c).~~

~~"One Hundred Percent Acid": Acid with a specific gravity of 1.8205 at 30° C in the case of sulfuric acid and 1.4952 at 30° C in the case of nitric acid.~~

~~"One-Turn Storage Space": That space used to store grain with a total annual through-put not in excess of the total bushel storage of that space.~~

~~"Opacity": A condition which renders material partially or wholly impervious to transmittance of light and causes obstruction of an observer's view. For the purposes of these regulations, the following equivalence between opacity and Ringelmann shall be employed:~~

~~Opacity~~	~~Ringelmann~~
~~10~~	~~0.5~~
~~20~~	~~1.~~
~~30~~	~~1.5~~

~~40~~	~~2.~~
~~60~~	~~3.~~
~~80~~	~~4.~~
~~100~~	~~5.~~

~~"Open Top Vapor Degreasing": The batch process of cleaning and removing soils from surfaces by condensing hot solvent vapor on the colder metal parts.~~

~~"Operator of Gasoline Dispensing Facility": Any person who is the lessee of or operates, controls or supervises a gasoline dispensing facility.~~

~~"Organic Compound": Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metal carbides or carbonates, and ammonium carbonate.~~

~~"Organic Material": Any chemical compound of carbon including diluents and thinners which are liquids at standard conditions and which are used as dissolvers, viscosity reducers or cleaning agents, but excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbonic acid, metallic carbide, metallic carbonates and ammonium carbonate.~~

~~"Organic Materials": For the purposes of Section 9.4 of the Act, any chemical compound of carbon, including diluents and thinners which are liquids at standard conditions and which are used as dissolvers, viscosity reducers or cleaning agents, and polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans and polynuclear aromatic hydrocarbons are organic materials, while methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbonic acid, metallic carbide, metallic carbonates and ammoniun carbonate are not organic materials.~~

~~"Organic Vapor": Gaseous phase of an organic material or a mixture of organic materials present in the atmosphere.~~

~~"Overvarnish": A coating applied directly over ink or printing.~~

~~"Owner of Gasoline Dispensing Facility": Any person who has legal or equitable title to a stationary storage tank at a gasoline dispensing facility.~~

~~"Packaging Rotogravure Printing": Rotogravure printing upon paper, paper board, metal foil, plastic film and other substrates, which are, in subsequent operations, formed into packaging products or labels for articles to be sold.~~

~~"Paint Manufacturing Plant": A plant that mixes, blends, or compounds enamels, lacquers, sealers, shellacs, stains, varnishes or pigmented surface coatings.~~

~~"Paper Coating": The application of a coating material to paper or pressure sensitive tapes, regardless of substrate, including web coating on plastic fibers and decorative coatings on metal foil.~~

~~"Particulate Matter": Any solid or liquid material, other than water, which exists in finely divided form.~~

~~"Petroleum Liquid": Crude oil, condensate or any finished or intermediate product manufactured at a petroleum refinery, but not including Number 2 through Number 6 fuel oils as specified in A.S.T.M. D-396-69,gas turbine fuel oils Numbers 2-GT through 4-GT as specified in A.S.T.M. D-2880-71 or diesel fuel oils Numbers 2-D and 4-D, as specified in A.S.T.M. D-975-68.~~

~~"Petroleum Refinery": Any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation, cracking, extraction or reforming of unfinished petroleum derivatives.~~

~~"Pharmaceutical": Any compound or mixture, other than food, used in the prevention, diagnosis, alleviation, treatment or cure of disease in man and animal.~~

~~"Pharmaceutical Coating Operation": A device in which a coating is applied to a pharmaceutical, including any drying or curing of the coating.~~

~~"Photochemically Reactive Material": Any organic material with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or the composition of which exceeds any of the following individual percentage composition limitations. Whenever any photochemically reactive material or any constituent of any organic material may be classified from its chemical structure into more than one of the above groups of organic materials it shall be considered as a member of the most reactive group, that is, the group having the least allowable percent of the total organic materials.~~

~~A combination of hydrocarbons, alcohols, aldehydes, esters, ethers or ketones having an olefinic or cyclo-olefinic types of unsaturation: 5 percent. This definition does not apply to perchlorethylene or trichloroethylene.~~

~~A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.~~

~~A combination of ethylbenzene, ketones having branched hydrocarbon structures or toluene: 20 percent.~~

~~"Plant": All of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control), except the activities of any marine vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e., which have the same two-digit code) as described in the "Standard Industrial Classification Manual", 1987.~~

~~"PM-10": particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers, as measured by the applicable test methods specified by rule. Ambient air concentrations for PM-10 are usually expressed in micrograms per cubic meter (ug/m^3).~~

~~"Pneumatic Rubber Tire Manufacture": The production of pneumatic rubber tires with a bead diameter up to but not including 20.0 inches and cross section dimension up to 12.8 inches, but not including specialty tires for antique or other vehicles when produced on equipment separate from normal production lines for passenger or truck type tires.~~

~~"Polybasic Organic Acid Partial Oxidation Manufacturing Process": Any process involving partial oxidation of hydrocarbons with air to manufacture polybasic acids or their anhydrides, such as maleic anhydride, phthalic anhydride, terephthalic acid, isophthalic acid, trimelletic anhydride.~~

~~"Portable Grain-Handling Equipment": Any equipment (excluding portable grain dryers) that is designed and maintained to be movable primarily for use in a non-continuous operation for loading and unloading one-turn storage space, and is not physically connected to the grain elevator, provided that the manufacturer's rated capacity of the equipment does not exceed 10,000 bushels per hour.~~

~~"Portland Cement Manufacturing Process Emission Source": any items of process equipment or manufacturing processes used in or associated with the production of portland cement, including, but not limited to, a kiln, clinker cooler, raw mill system, finish mill system, raw material~~

~~dryer, material storage bin or system, material conveyor belt or other transfer system, material conveyor belt transfer point, bagging operation, bulk unloading station, or bulk loading station.~~

~~"Portland Cement Process" or "Portland Cement Manufacturing Plant": Any facility or plant manufacturing portland cement by either the wet or dry process.~~

~~"Power Driven Fastener Coating": The coating of nail, staple, brad and finish nail fasteners where such fasteners are fabricated from wire or rod of 0.0254 inch diameter or greater, where such fasteners are bonded into coils or strips, such coils and strips containing a number of such fasteners, which fasteners are manufactured for use in power tools, and which fasteners must conform with formal standards for specific uses established by various federal and national organizations including Federal Specification FF-N-105b of the General Services Administration dated August 23, 1977 (does not include any later amendments or editions; U.S. Army Armament Research and Development Command, Attn: DRDAR-TST, Rock Island, IL 61201), Bulletin UM-25d of the U.S. Department of Housing and Urban Development - Federal Housing Administration dated September 5, 1973 (does not include any later amendments or editions; Department of HUD, 547 W. Jackson Blvd., Room 1005, Chicago, IL 60606), and the Model Building Code of the Council of American Building Officials, and similar standards. For the purposes of this definition, the terms "brad" and "finish nail" refer to single leg fasteners fabricated in the same manner as staples. The application of coatings to staple, brad, and finish nail fasteners may be associated with the incremental forming of such fasteners in a cyclic or repetitious manner (incremental fabrication) or with the forming of strips of such fasteners as a unit from a band of wires (unit fabrication).~~

~~"PPM (Vol) - (Parts per Million) (Volume)": A volume/volume ratio which expresses the volumetric concentration of gaseous air contaminant in a million unit volumes of gas.~~

~~"Pressure Release": The emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.~~

~~"Pressure Tank": A tank in which fluids are stored at a pressure greater than atmospheric pressure.~~

~~"Prime Coat": The first film of coating material applied in a multiple coat operation.~~

~~"Prime Surfacer Coat": A film of coating material that touches up areas on the surface not adequately covered by the prime coat before application of the top coat.~~

~~"Process": Any stationary emission source other than a fuel combustion emission source or an incinerator.~~

~~"Process Unit": Components assembled to produce, as intermediate or final products, one or more of the chemicals listed in 35 Ill. Adm. Code 215.Appendix D. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.~~

~~"Process Unit Shutdown": A work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare components and technically feasible bypassing of components without stopping production is not a process unit shutdown.~~

~~"Process Weight Rate": The actual weight or engineering approximation thereof of all materials except liquid and gaseous fuels and combustion air, introduced into any process per hour. For a cyclical or batch operation, the process weight rate shall be determined by dividing such actual weight or engineering approximation thereof by the number of hours of operation excluding any time during which the equipment is idle. For continuous processes, the process weight rate shall be determined by dividing such actual weight or engineering approximation thereof by the number of hours in one complete operation, excluding any time during which the equipment is idle.~~

~~"Production Equipment Exhaust System": A system for collecting and directing into the atmosphere emissions of volatile organic material from reactors, centrifuges and other process emission sources.~~

~~"Publication Rotogravure Printing": Rotogravure printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements or other types of non-packaging printed materials.~~

~~"Purged Process Fluid": Liquid or vapor from a process unit that contains volatile organic material and that results from flushing or cleaning the sample line(s) of a process unit so that an uncontaminated sample may then be taken for testing or analysis.~~

~~"Reactor": A vat, vessel or other device in which chemical reactions take place.~~

~~"Reasonably Available Control Technology (RACT)": The lowest emission limitation that an emission source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.~~

~~"Refinery Fuel Gas": Any gas which is generated by a petroleum refinery process unit and which is combusted at the refinery, including any gaseous mixture of natural gas and fuel gas.~~

~~"Refinery Unit, Process Unit or Unit": A set of components which are a part of a basic process operation such as distillation, hydrotreating, cracking or reforming of hydrocarbons.~~

~~"Refrigerated Condenser": A surface condenser in which the coolant supplied to the condenser has been cooled by a mechanical device, other than by a cooling tower or evaporative spray cooling, such as a refrigeration unit or steam chiller unit.~~

~~"Residual Fuel Oil": Fuel oils of grade No. 4, 5 and 6 as specified in detailed requirements for fuel oils A.S.T.M. D-396-69 (1971).~~

~~"Restricted Area": The area within the boundaries of any "municipality" as defined in the Illinois Municipal Code, plus a zone extending one mile beyond the boundaries of any such municipality having a population of 1000 or more according to the latest federal census.~~

~~"Ringelmann Chart": The chart published and described in the Bureau of Mines, U.S. Department of Interior, Information Circular 8333 (Revision of IC7718) May 1, 1967, or any adaptation thereof which has been approved by the Agency.~~

~~"Roadway": Any street, highway, road, alley, sidewalk, parking lot, airport, rail bed or terminal, bikeway, pedestrian mall or other structure used for transportation purposes.~~

~~"Roll Printing": The application of words, designs and pictures to a substrate usually by means of a series of hard rubber or metal rolls each with only partial coverage.~~

~~"Rotogravure Printing": The application of words, designs and pictures to a substrate by means of a roll printing~~

~~technique in which the pattern to be applied is recessed relative to the non-image area.~~

~~"Safety Relief Valve": A valve which is normally closed and which is designed to open in order to relieve excessive pressures within a vessel or pipe.~~

~~"Sandblasting": The use of a mixture of sand and air at high pressures for cleaning and/or polishing any type of surface.~~

~~"Screening": Separating material according to size by pressing undersized material through one or more mesh surfaces (screens) in series, and retaining oversized material on the mesh surfaces (screens).~~

~~"Sensor": A device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.~~

~~"Set of Safety Relief Valves": One or more safety relief valves designed to open in order to relieve excessive pressures in the same vessel or pipe.~~

~~"Sheet Basecoat": A coating applied to metal when the metal is in sheet form to serve as either the exterior or interior of a can for either two-piece or three-piece cans.~~

~~"Shotblasting": The use of a mixture of any metallic or non-metallic substance and air at high pressures for cleaning and/or polishing any type of surface.~~

~~"Side-Seam Spray Coat": A coating applied to the seam of a three-piece can.~~

~~"Smoke": Small gas-borne particles resulting from incomplete combustion, consisting predominately but not exclusively of carbon, ash and other combustible material, that form a visible plume in the air.~~

~~"Smokeless Flare": A combustion unit and the stack to which it is affixed in which organic material achieves combustion by burning in the atmosphere such that the smoke or other particulate matter emitted to the atmosphere from such combustion does not have an appearance density or shade darker that No. 1 of the Ringlemann Chart.~~

~~"Solvent Cleaning": The process of cleaning soils from surfaces by cold cleaning, open top vapor degreasing or conveyorized degreasing.~~

~~"Specialty High Gloss Catalyzed Coating": Commercial contract finishing of material prepared for printers and lithographers where the finishing process uses a solvent-borne coating, formulated with a catalyst, in a quantity of no more than 12,000 gallons/year as supplied, where the coating machines are sheet fed and the coated sheets are brought to a minimum surface temperature of 190° F, and where the coated sheets are to achieve the minimum specular reflectance index of 65 measured at a 60 degree angle with a gloss meter.~~

~~"Splash Loading": A method of loading a tank, railroad tank car, tank truck or trailer by use of other than a submerged loading pipe.~~

~~"Stack": A flue or conduit, free-standing or with exhaust port above the roof of the building on which it is mounted, by which air contaminants are emitted into the atmosphere.~~

~~"Standard Conditions": A temperature of 70° F and a pressure of 14.7 pounds per square inch absolute (psia).~~

~~"Standard Cubic Foot (scf)": The volume of one cubic foot of gas at standard conditions.~~

~~"Startup": The setting in operation of an emission source for any purpose.~~

~~"Stationary Emission Source": An emission source which is not self-propelled.~~

~~"Stationary Storage Tank": Any container of liquid or gas which is designed and constructed to remain at one site.~~

~~"Submerged Loading Pipe": Any loading pipe the discharge opening of which is entirely submerged when the liquid level is 6 inches above the bottom of the tank. When applied to a tank which is loaded from the side, any loading pipe the discharge of which is entirely submerged when the liquid level is 18 inches or two times the loading pipe diameter, whichever is greater, above the bottom of the tank. The definition shall also apply to any loading pipe which is continuously submerged during loading operations.~~

~~"Sulfuric Acid Mist": Sulfuric acid mist as measured according to the method specified in 35 Ill. Adm. Code 214.101(b).~~

~~"Surface Condenser": A device which removes a substance from a gas stream by reducing the temperature of the stream, without direct contact between the coolant and the stream.~~

~~"Synthetic Organic Chemical or Polymer Manufacturing Plant": A plant that produces, as intermediates or final products, one or more of the chemicals or polymers listed in 35 Ill. Adm. Code 215.Appendix D.~~

~~"Tablet Coating Operation": A pharmaceutical coating operation in which tablets are coated.~~

~~"Top Coat": A film of coating material applied in a multiple coat operation other than the prime coat, final repair coat or prime surfacer coat.~~

~~"Transfer Efficiency": Ratio of the amount of coating deposited onto a part or product to the total amount of coating solids used.~~

~~"Tread End Cementing": The application of a solvent-based cement to the tire tread ends.~~

~~"True Vapor Pressure": The equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks" (1962).~~

~~"Turnaround": The procedure of shutting down an operating refinery unit, emptying gaseous and liquid contents to do inspection, maintenance and repair work, and putting the unit back into production.~~

~~"Undertread Cementing": The application of a solvent-based cement to the underside of a tire tread.~~

~~"Unregulated Safety Relief Valve": A safety relief valve which cannot be actuated by a means other than high pressure in the pipe or vessel which it protects.~~

~~"Vacuum Producing System": Any reciprocating, rotary or centrifugal blower or compressor, or any jet ejector or device that creates suction from a pressure below atmospheric and discharges against a greater pressure.~~

~~"Valves Not Externally Regulated": Valves that have no external controls, such as in-line check valves.~~

~~"Vapor Balance System": Any combination of pipes or hoses which creates a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.~~

~~"Vapor Collection System": All piping, seals, hoses, connections, pressure-vacuum vents, and other possible sources between the gasoline delivery vessel and the vapor processing unit and/or the storage tanks and vapor holder.~~

~~"Vapor Control System": Any system that prevents release to the atmosphere of organic material in the vapors displaced from a tank during the transfer of gasoline.~~

~~"Vapor-Mounted Primary Seal": A primary seal mounted with an air space bounded by the bottom of the primary seal, the tank wall, the liquid surface and the floating roof.~~

~~"Vinyl Coating": The application of a topcoat or printing to vinyl coated fabric or vinyl sheets; provided, however, that the application of an organisol or plastisol is not vinyl coating.~~

~~"Volatile Organic Liquid": Any liquid which contains volatile organic material.~~

~~"Volatile Organic Material": Any organic compound which participates in atmospheric photochemical reactions unless specifically exempted from this definition. For purposes of determining compliance with emission limits, volatile organic material shall be measured by the reference test methods incorporated by reference in 35 Ill. Adm. Code 215.105. Where such a method also inadvertently measures compounds with negligible photochemical reactivity, an owner or operator may exclude these negligibly reactive compounds.~~

~~For purposes of this definition, the following organic compounds have been determined to have negligible photochemical reactivity and are not volatile organic materials:~~

~~Chlorodifluoroethane (HCFC-142b)~~
~~Chlorodifluoromethane (CFC-22)~~
~~Chloropentafluoroethane (CFC-115)~~
~~2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)~~
~~Dichlorodifluoromethane (CFC-12)~~
~~Dichlorofluoroethane (HCFC-141b)~~
~~Dichloromethane (Methylene chloride)~~
~~Dichlorotetrafluoroethane (CFC-114)~~
~~Dichlorotrifluoroethane (HCFC-123)~~
~~1,1-Difluoroethane (HFC-152a)~~
~~Ethane~~
~~Methane~~
~~Pentafluoroethane (HFC-125)~~
~~Tetrafluoroethane (HFC-134a)~~
~~1,1,2,2-Tetrafluoroethane (HFC-134)~~
~~Trichloroethane (Methyl chloroform)~~

~~1,1,1-Trichloroethane (Methyl chloroform)~~
~~Trichlorofluoromethane (CFC-11)~~
~~Trichlorotrifluoroethane (CFC-113)~~
~~Trifluoromethane (FC-23)~~

~~and the following classes of compounds:~~

~~Cyclic, branched, or linear, completely fluorinated alkanes.~~

~~Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.~~

~~Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.~~

~~Sulphur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.~~

~~BOARD NOTE: USEPA or the Agency may require monitoring to demonstrate the amount of an exempted compound in a source's emissions on a case-by-case basis as a pre-condition to exemption of that compound under certain circumstances, such as where VOMs and exempted compounds are mixed together, there are a large number of exempted compounds, or the chemical composition of the exempted compounds is not known. See 35 Ill. Adm. Code 215.108; 56 Fed Reg. 11419-20.~~

~~"Volatile Organic Material Content" or "VOMC": the emissions of volatile organic material which would result from the exposure of a coating, printing ink, fountain solution, tire spray, dry cleaning waste or other similar material to the air, including any drying or curing, in the absence of any control equipment. VOMC is typically expressed as kilogram (kg) VOM/liter (lb VOM/gallon) of coating or coating solids, or kg VOM/kg (lb VOM/lb) of coating solids, of coating material or material.~~

~~"Volatile Petroleum Liquid": Any petroleum liquid with a true vapor pressure that is greater than 1.5 psia (78 millimeters of mercury) at standard conditions.~~

~~"Wastewater (Oil/Water) Separator": Any device or piece of equipment which utilizes the difference in density between oil and water to remove oil and associated chemicals of water, or any device, such as a flocculation tank or a clarifier, which removes petroleum derived compounds from waste water.~~

~~"Weak Nitric Acid Manufacturing Process": Any acid producing facility manufacturing nitric acid with a concentration of less than 70 percent by weight.~~

~~"Woodworking": The shaping, sawing, grinding, smoothing, polishing and making into products of any form or shape of wood.~~

(Source: Repealed at ___ Ill. Reg. _____, effective _______________ _______________)

Section 211.130 Accelacota

"Accelacota" means a pharmaceutical coating operation which consists of a horizontally rotating perforated drum in which tablets are placed, a coating is applied by spraying, and the coating is dried by the flow of air across the drum through the perforations.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.150 Accumulator

"Accumulator" means the reservoir of a condensing unit receiving the condensate from a surface condenser.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.170 Acid Gases

"Acid gases" means, for the purposes of Section 9.4 of the Environmental Protection Act (the Act) (Ill. Rev. Stat. 1991, ch. 111½, par. 1009.4) [415 ILCS 5/9.4], hydrogen chloride, hydrogen fluoride and hydrogen bromide, which exist as gases, liquid mist, or any combination thereof.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.210 Actual Heat Input

"Actual heat input" means the quantity of heat produced by the combustion of fuel using the gross heating value of the fuel.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.230 Adhesive

"Adhesive" means any substance or mixture of substances intended to serve as a joining compound.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.250 Aeration

"Aeration" means the practice of forcing air through bulk stored grain to maintain the condition of the grain.

(Source: Added at ___ Ill. Reg.______, effective________________ ____________)

Section 211.290 Afterburner

"Afterburner" means a control device in which materials in gaseous effluent are combusted.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.310 Air Contaminant

"Air contaminant" means any solid, liquid, or gaseous matter, any odor, or any form of energy, that is capable of being released into the atmosphere.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.330 Air Dried Coatings

"Air dried coatings" means any coatings that dry by use of air or forced air at temperatures up to 363.15°K (194°F).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.350 Air Oxidation Process

"Air oxidation process" means any unit process including ammoxidation and oxychlorination which uses air or a combination of air and oxygen as an oxidant in combination with one or more organic reactants to produce one or more organic compounds.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.370 Air Pollutant

"Air pollutant" means an air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the atmosphere. Such term includes any precursors to the formation of any air pollutant, to the extent that the relevant statute or rule has identified such precursor or precursors for particular purpose for which the term "air pollutant" is used.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.390 Air Pollution

"Air pollution" means the presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.410 Air Pollution Control Equipment

"Air pollution control equipment" means any equipment or apparatus of a type intended to eliminate, prevent, reduce or control the emission of air contaminants to the atmosphere.

(Board Note: The requirements to obtain permits for air pollution control equipment, in 35 Ill. Adm. Code 201.Subpart C, apply to such equipment intended to eliminate, prevent, reduce or control the emissions of **specified** air contaminants from **stationary** emission units.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.430 Air Suspension Coater/Dryer

"Air suspension coater/dryer" means a pharmaceutical coating operation which consists of vertical chambers in which tablets or particles are placed, and a coating is applied and then dried while the tablets or particles are kept in a fluidized state by the passage of air upward through the chambers.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.450 Airless Spray

"Airless spray" means a spray coating method in which the coating is atomized by forcing it through a small opening at high pressure. The coating liquid is not mixed with air before exiting from the nozzle.

(Source: Added at ___ Ill. Reg. _____, effective ______________________________)

Section 211.470 Air Assisted Airless Spray

"Air assisted airless spray" means a spray coating method which combines compressed air with hydraulic pressure to atomize the coating material into finer droplets than is achieved with pure airless spray. Lower hydraulic pressure is used than with airless spray.

(Source: Added at ___ Ill. Reg. _____, effective ______________________________)

Section 211.490 Annual Grain Through-Put

"Annual grain through-put" unless otherwise shown by the owner or operator, annual grain through-put for grain-handling operations, which have been in operation for three consecutive years prior to June 30, 1975, shall be determined by adding grain receipts and shipments for the three previous fiscal years and dividing the total by 6. The annual grain through-put for grain-handling operations in operation for less than three consecutive years prior to June 30, 1975, shall be determined by a reasonable three-year estimate; the owner or operator shall document the reasonableness of his three-year estimate.

(Source: Added at ___ Ill. Reg. _____, effective ______________________________)

Section 211.510 Application Area

"Application area" means an area where a coating is applied by dipping, spraying or other techniques.

(Source: Added at ___ Ill. Reg. _____, effective ______________________________)

Section 211.530 Architectural Coating

"Architectural coating" means any coating used for residential or commercial buildings or their appurtenances, or for industrial buildings, which is site applied.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.550 As Applied

"As applied" means the formulation of a coating during application on or impregnation into a substrate, including any dilution solvents or thinners added at the source before application of the coating.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.570 Asphalt

"Asphalt" means the dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens which occur naturally or as a residue of petroleum refining.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.590 Asphalt Prime Coat

"Asphalt prime coat" means a low-viscosity liquid asphalt applied to an absorbent surface as the first of more than one asphalt coat.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.610 Automobile

"Automobile" means a motor vehicle which normally has four wheels, is used predominately for carrying 12 or fewer passengers, and is not a light-duty truck.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.630 Automobile or Light-Duty Truck Assembly Source or Automobile or Light-Duty Truck Manufacturing Plant

"Automobile or light-duty truck assembly source" or "Automobile or light-duty truck manufacturing plant" means a source where parts are assembled or finished for inclusion into a finished automobile or light-duty truck ready for sale to vehicle dealers, but not including customizers, body shops, and other repainters.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.650 Automobile or Light-Duty Truck Refinishing

"Automobile or light-duty truck refinishing" means the repainting of used automobiles and light-duty trucks.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.670 Baked Coatings

"Baked coatings" means any coating which is cured or dried in an oven where the oven air temperature exceeds 90°C (194°F).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.690 Batch Loading

"Batch loading" means, with respect to solvent cleaning, the process of loading a number of individual parts at the same time for degreasing.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.710 Bead-Dipping

"Bead-dipping" means the dipping of an assembled tire bead into a solvent-based cement.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.730 Binders

"Binders" means organic materials and resins which do not contain VOM.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.750 British Thermal Unit

"British Thermal Unit" means the quantity of heat required to raise one pound of water from 60°F to 61°F (abbreviated btu).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.770 Brush or Wipe Coating

"Brush or wipe coating" means a manual method of applying a coating using a brush, cloth, or similar object.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.790 Bulk Gasoline Plant

a) "Bulk gasoline plant" means, for purposes of 35 Ill. Adm. Code 215, any gasoline storage and distribution source that receives gasoline from bulk gasoline terminals by delivery vessels and distributes gasoline to gasoline dispensing operations.

b) "Bulk gasoline plant" means, for purposes of 35 Ill. Adm. Code 218 and 219, a gasoline storage and distribution source with an average throughput of 76,000 l (20,000 gal) or less on a 30-day rolling average that distributes gasoline to gasoline dispensing operations.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.810 Bulk Gasoline Terminal

"Bulk gasoline terminal" means any gasoline storage and distribution source that receives gasoline by pipeline, ship or barge, and distributes gasoline to bulk gasoline plants or gasoline dispensing operations.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.830 Can

"Can" means any cylindrical single walled metal container, with or without a top, cover, spout or handles, with walls thinner than 29 gauge (0.0141 inch) into which solid or liquid materials may be packaged.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.850 Can Coating

"Can coating" means any protective, decorative or functional coating applied onto the surface of a can or a metal sheet or metal part which is made into a can.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.870 Can Coating Line

"Can coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of a can or a metal sheet or metal part which is made into a can.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.890 Capture

"Capture" means the containment or recovery of emissions from an emission unit for direction into a duct which may be exhausted through a stack or vent to a control device. The overall abatement of emissions from an emission unit with an add-on control device is a function both of the capture efficiency and of the control device efficiency.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.910 Capture Device

"Capture device" means a hood, enclosed room, floor sweep or other means of collecting volatile organic material or other air contaminants into a duct. The pollutant can then be directed to a pollution control device such as an afterburner, carbon adsorber, fabric filter or scrubber. Sometimes the term is used loosely to include the control device.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.930 Capture Efficiency

"Capture efficiency" means, for purposes of 35 Ill. Adm. Code 218 and 219, the weight of VOM entering a capture system and delivered to a control device divided by the weight of VOM generated by an emission unit, during a particular time period, expressed as a percentage.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.950 Capture System

"Capture system" means all equipment (including, but not limited to, hoods, ducts, fans, ovens, dryers, etc.) used to contain, collect and transport an air contaminant to a control device.

(Source: Added at ___ Ill. Reg. _____, effective _______________
____________)

Section 211.970 Certified Investigation

"Certified investigation" means a report signed by Illinois Environmental Protection Agency (Agency) personnel certifying whether a grain-handling operation (or portion thereof) or grain-drying operation is causing or tending to cause air pollution. Such report must describe the signatory's investigation, including a summary of those facts on which the signatory relies to certify whether the grain-handling or grain-drying operation is causing or threatening or allowing the discharge or emission of any contaminant into the environment so as to cause or tend to cause air pollution in Illinois, either alone or in combination with contaminants from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board (Board) under the Environmental Protection Act (Act). The certified investigation shall be open to a reasonable public inspection and may be copied upon payment of the actual cost of reproducing the original.

(Source: Added at ___ Ill. Reg. _____, effective _______________
____________)

Section 211.990 Choke Loading

"Choke loading" means that method of transferring grain from the grain-handling operation to any vehicle for shipment or delivery which precludes a free fall velocity of grain from a discharge spout into the receiving container.

(Source: Added at ___ Ill. Reg. _____, effective _______________
____________)

Section 211.1010 Clean Air Act

"Clean Air Act" means the Clean Air Act Amendments of 1970 (42 U.S.C. §7401 et seq.), as amended in 1977 and 1990.

(Source: Added at ___ Ill. Reg. _____, effective _______________
____________)

Section 211.1050 Cleaning and Separating Operation

"Cleaning and separating operation" means that operation where foreign and undesired substances are removed from the grain.

(Source: Added at ___ Ill. Reg. _____, effective _______________
____________)

Section 211.1090 Clear Coating

"Clear coating" means coatings that lack color and opacity or are transparent using the undercoat as a reflectant base or undertone color.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1110 Clear Topcoat

"Clear topcoat" means the final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1130 Closed Purge System

"Closed purge system" means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow inducing devices that transport liquid or vapor from a piece or pieces of equipment to a control device, or return the liquid or vapor to the process line.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1150 Closed Vent System

"Closed vent system" means a system that is not open to the atmosphere and is composed of piping, connections, and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1170 Coal Refuse

"Coal refuse" means waste products of coal mining, cleaning and coal preparation operations containing coal, matrix material, clay and other organic and inorganic material.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1190 Coating

a) "Coating" means, for purposes of 35 Ill. Adm. Code 215, a material applied to a substrate for decorative, protective or other functional purposes. Such material shall include, but are not limited to paints, varnishes, sealers, adhesives, diluents and thinners.

b) "Coating" means, for purposes of 35 Ill. Adm. Code 218 and 219, a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, adhesives, thinners, diluents, and inks.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1210 Coating Applicator

"Coating applicator" means equipment used to apply a coating.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1230 Coating Line

a) "Coating line" means, for purposes of 35 Ill. Adm. Code 215, an operation where a surface coating is applied to a material and subsequently the coating is dried and/or cured.

b) "Coating line" means, for purposes of 35 Ill. Adm. Code 218 and 219, an operation consisting of a series of one or more coating applicators and any associated flash-off areas, drying areas, and ovens wherein a coating is applied, dried, and/or cured. A coating line ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating. It is not necessary for an operation to have an oven or a flash-off area in order to be included in this definition.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1250 Coating Plant

"Coating plant" means any building, structure or installation that contains a coating line and which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1270 Coil Coating

"Coil coating" means any protective, decorative or functional coating which is applied onto any flat metal sheet or strip which is delivered to the coating line as a roll or coil, unwound and coated as a continuous substrate.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1290 Coil Coating Line

"Coil coating line" means a coating line in which any protective, decorative or functional coating is applied onto any flat metal sheet or strip which is delivered to the coating line as a roll or coil, unwound and coated as a continuous substrate.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1310 Cold Cleaning

"Cold cleaning" means the process of cleaning and removing soils from surfaces by spraying, brushing, flushing, or immersion while maintaining the organic solvent below its boiling point. Wipe cleaning is not included in this definition.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1330 Complete Combustion

"Complete combustion" means a process in which all carbon contained in a fuel or gas stream is converted to carbon dioxide.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1350 Component

"Component" means any piece of equipment which has the potential to leak volatile organic material (VOM) including, but not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains, and open ended valves and lines, and flanges. For purposes of Subparts Q and R in 35 Ill. Adm. Code 215, 218 and 219, this definition excludes valves which are not externally regulated, flanges, and equipment in heavy liquid service. For purposes of Subpart Q of 35 Ill. Adm. Code 215, 218 and 219, this definition also excludes bleed ports of gear pumps in polymer service.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.1370 Concrete Curing Compounds

"Concrete curing compounds" means any coating applied to freshly poured concrete to retard the evaporation of water.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.1390 Concentrated Nitric Acid Manufacturing Process

"Concentrated nitric acid manufacturing process" means any acid producing facility manufacturing nitric acid with a concentration equal to or greater than 70 percent by weight.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.1410 Condensate

"Condensate" means volatile organic liquid separated from its associated gases, which condenses due to changes in the temperature or pressure and remains liquid at standard conditions.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.1430 Condensible PM-10

"Condensible PM-10" means PM-10 formed immediately or shortly after discharge to the atmosphere, as measured by the applicable test method specified in 35 Ill. Adm. Code 212.110. Condensible particulate matter exists in gaseous and/or vapor form prior to release to the atmosphere, e.g., in the stack, and forms particulate matter upon condensation when subject to conditions of cooling and dilution in the atmosphere.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.1470 Continuous Process

"Continuous process" means, with respect to manufacture of polystyrene resin, a method of manufacture in which the styrene raw material is delivered on a continuous basis to the reactor in which the styrene is polymerized to polystyrene.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.1490 Control Device

"Control device" means equipment (such as an afterburner, adsorber, fabric filter or scrubber) used to remove or prevent the emission of an air contaminant from a contaminated exhaust stream.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.1510 Control Device Efficiency

"Control device efficiency" means, for purposes of 35 Ill. Adm. Code 218 and 219, the weight of VOM generated by an emission unit which is destroyed or removed by a control device, divided by the weight of VOM generated by such unit entering the control device, during a particular time period, expressed as a percentage.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.1530 Conventional Soybean Crushing Source

"Conventional soybean crushing source" means any hexane extraction soybean crushing equipment that uses direct contact steam for desolventizing and producing toasted soy meals.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.1550 Conveyorized Degreasing

"Conveyorized degreasing" means the continuous process of cleaning and removing soils from surfaces utilizing either cold or vaporized solvents.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.1570 Crude Oil

"Crude oil" means a naturally occurring mixture which consists of hydrocarbons and sulfur, nitrogen, or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.1590 Crude Oil Gathering

"Crude oil gathering" means the transportation of crude oil or condensate after custody transfer between a production site and a reception point.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1610 Crushing

"Crushing" means the fragmentation of non-metallic minerals by a machine such as a jaw, gyratory, cone, roll, rod, mill, hammermill, and impactor.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1630 Custody Transfer

"Custody transfer" means the transfer of produced petroleum and/or condensate after processing and/or treating in the producing operations, from storage tanks or automatic transfer systems to pipelines or any other forms of transportation.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1650 Cutback Asphalt

"Cutback asphalt" means any asphalt which has been liquified by blending with petroleum solvents other than residual fuel oil and has not been emulsified with water.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1670 Daily-Weighted Average VOM Content

"Daily-weighted average VOM content" means the average VOM content of two or more coatings as applied on a coating line during any day, taking into account the fraction of total coating volume that each coating represents, as calculated with the following equation:

$$VOM_w = \left[\sum_{i=1}^{n} V_i \; C_i \right] / V_T$$

where:

VOM_w = The average VOM content of two or more coatings as applied each day on a coating line in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM).

n = The number of different coatings as applied each day on a coating line.

V_i = The volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on a coating line in units of l (gal).

C_i = The VOM content of each coating as applied each day on a coating line in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM), and

V_T = The total volume of all coatings (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on a coating line in units of l (gal).

(Source: Added at ___ Ill. Reg. _____, effective ______________)

Section 211.1690 Day

"Day" means, for purposes of Part 218 or Part 219, the consecutive 24 hours beginning at 12:00 AM (midnight) local time or beginning at a fixed time consistent with the source's operating schedule, as provided below. A source may use a day beginning at a time other than midnight which is consistent with its operating schedule provided that the owner or operator of the source first notifies that Agency in writing of such alternative, describing why it would be more reasonable to maintain records on this basis. The owner or operator shall notify the Agency in writing prior to any change in the time at which a day begins.

(Source: Added at ___ Ill. Reg. _____, effective ______________)

Section 211.1710 Degreaser

"Degreaser" means any equipment or system used in solvent cleaning.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1730 Delivery Vessel

"Delivery vessel" means any tank truck or trailer equipped with a storage tank that is used for the transport of gasoline to a stationary storage tank at a gasoline dispensing operation, bulk gasoline plant, or bulk gasoline terminal.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1750 Dip Coating

"Dip coating" means a method of applying coatings in which the part is submerged in a tank filled with the coating.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1770 Distillate Fuel Oil

"Distillate fuel oil" means fuel oils of grade No. 1 or 2 as specified in detailed requirements for fuel oil ASTM D-369-69 (1971) incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1790 Drum

"Drum" means any cylindrical shipping container of 13 to 110-gallon capacity.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1810 Dry Cleaning Operation or Dry Cleaning Facility

"Dry cleaning operation" or "Dry cleaning facility" means the cleaning of fabrics using an essentially nonaqueous solvent by means of one or more solvent washes, extraction of excess solvent by spinning and drying by tumbling in an airstream. The dry cleaning operation or facility includes, but is not limited to, washers, dryers, filter and purification systems, waste disposal systems, holding tanks, pumps and attendant piping and valves.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1830 Dump-Pit Area

"Dump-pit area" means any area where grain is received at a grain-handling or grain-drying operation.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1850 Effective Grate Area

"Effective grate area" means that area of a dump-pit grate through which air passes, or would pass, when aspirated.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1870 Effluent Water Separator

"Effluent water separator" means any tank, box, sump or other apparatus in which any organic material floating on or entrained or contained in water entering such tank, box, sump or other apparatus is physically separated and removed from such water prior to outfall, drainage or recovery of such water.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1890 Electrostatic Bell or Disc Spray

"Electrostatic bell or disc spray" means an electrostatic spray coating method in which a rapidly-spinning bell- or disc-shaped applicator is used to create a fine mist and apply the coating with high transfer efficiency.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1910 Electrostatic Spray

"Electrostatic spray" means a spray coating method in which opposite electrical charges are applied to the substrate and the coating. The coating is attracted to the object due to the electrostatic potential between them.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.1930 Emission Rate

"Emission rate" means, if not otherwise stated in a specific provision, the total quantity of a particular specified air contaminant discharged into the atmosphere in any one-hour period. For example, if not otherwise specified in 35 Ill. Adm. Code 218 or 219, emission rate means the total quantity of volatile organic material discharged into the atmosphere in any one-hour period.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.1950 Emission Unit

"Emission unit" means any part or activity at a stationary source that emits or has the potential to emit any air pollutant.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.1970 Enamel

"Enamel" means a coating that cures by chemical cross-linking of its base resin. Enamels can be distinguished from lacquers because enamels are not readily resoluble in their original solvent.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.1990 Enclose

"Enclose" means, for purpose of 35 Ill. Adm. Code 215.481(c), 215.482(b), 218.481(c), 218.482(b), 219.481(c) and 219.482(b), to cover any volatile organic liquid surface that is exposed to the atmosphere.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.2010 End Sealing Compound Coat

"End sealing compound coat" means a can coating applied to can ends which functions as a gasket when the end is assembled onto the can.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.2050 Ethanol Blend Gasoline

"Ethanol blend gasoline" means a mixture of gasoline and at least 9% ethanol by volume.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.2070 Excess Air

"Excess air" means air supplied in addition to the theoretical quantity necessary for complete combustion of all fuel and/or combustible waste material.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.2090 Excessive Release

"Excessive release" means, for purposes of 35 Ill. Adm. Code 215.144, 218.144 and 219.144, a discharge of more than 295 g (0.65 lbs) of mercaptans and/or hydrogen sulfide into the atmosphere in any 5-minute period.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.2110 Existing Grain-Drying Operation

"Existing grain-drying operation" means any grain-drying operation the construction or modification of which was commenced prior to June 30, 1975.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.2130 Existing Grain-Handling Operation

"Existing grain-handling operation" means any grain-handling operation the construction or modification of which was commenced prior to June 30, 1975.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.2150 Exterior Base Coat

"Exterior base coat" means a can coating applied to the exterior of a two-piece can body to provide protection to the metal or to provide background for any lithographic or printing operation.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.2170 Exterior End Coat

"Exterior end coat" means a can coating applied to the exterior end of a can to provide protection to the metal.

(Source: Added at ___ Ill. Reg. _____, effective _______________)

Section 211.2190 External Floating Roof

"External floating roof" means a cover over an open top storage tank consisting of a double deck or pontoon single deck which rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(Source: Added at ___ Ill. Reg. _____, effective _______________)

Section 211.2210 Extreme Performance Coating

"Extreme performance coating" means any coating which during intended use is exposed to any or all of the following: ambient weather conditions, temperatures consistently above 95°C (203°F), detergents, abrasive and scouring agents, solvents, or corrosive atmospheres.

(Source: Added at ___ Ill. Reg. _____, effective _______________)

Section 211.2230 Fabric Coating

"Fabric coating" means any protective, decorative or functional coating which is applied onto or impregnated into a textile fabric which is delivered to the coating line as a roll, unwound and coated as a continuous substrate.

(Source: Added at ___ Ill. Reg. _____, effective _______________)

Section 211.2250 Fabric Coating Line

"Fabric coating line" means a coating line in which any protective, decorative, or functional coating is applied onto or impregnated into a textile fabric which is delivered to the coating line as a roll, unwound and coated as a continuous substrate.

(Source: Added at ___ Ill. Reg. _____, effective _______________)

Section 211.2270 Federally Enforceable Limitations and Conditions

"Federally enforceable limitations and conditions" means all limitations and conditions which are enforceable by the Administrator of the USEPA, including those requirements developed pursuant to 40 CFR Parts 60 and 61; requirements within any applicable implementation plan; and any permit requirements established pursuant to 40 CFR 52.21 or 40 CFR 52.737 or under regulations approved pursuant to 40 CFR Part 51 Subpart I, 40 CFR 51.166 and 40 CFR Part 70.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2310 Final Repair Coat

"Final repair coat" means, with respect to automobile or light-duty truck assembly or manufacturing, a coating which is used to repaint topcoat which is damaged during vehicle assembly.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2330 Firebox

"Firebox" means the chamber or compartment of a boiler or furnace in which materials are burned, but not the combustion chamber or afterburner of an incinerator.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2350 Fixed-Roof Tank

"Fixed-roof tank" means a cylindrical shell with a permanently affixed roof.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2370 Flexographic Printing

"Flexographic printing" means a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2390 Flexographic Printing Line

"Flexographic printing line" means a printing line performing flexographic printing.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2410 Floating Roof

"Floating roof" means a roof on a stationary tank, reservoir, or other container which moves vertically upon change in volume of the stored material.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2430 Fountain Solution

"Fountain solution" means the solution used in certain methods of printing which is applied to the image plate to maintain hydrophilic properties of the non-image areas.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2450 Freeboard Height

"Freeboard height" means, for open top vapor degreasers, the distance from the top of the vapor zone to the top of the degreaser tank, and for cold cleaning degreasers, the distance from the solvent to the top of the degreaser tank.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2470 Fuel Combustion Emission Unit or Fuel Combustion Emission Source

"Fuel combustion emission unit" or "Fuel combustion emission source" means any furnace, boiler, or similar equipment used for the primary purpose of producing heat or power by indirect heat transfer.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2490 Fugitive Particulate Matter

"Fugitive particulate matter" means any particulate matter emitted into the atmosphere other than through a stack, provided that nothing in this definition or in 35 Ill. Adm. Code 212, Subpart K shall exempt any emission unit from compliance with other provisions of 35 Ill. Adm. Code 212 otherwise applicable merely because of the absence of a stack.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2510 Full Operating Flowrate

"Full operating flowrate" means maximum operating capacity of the source, emission unit or process unit, as applicable.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2530 Gas Service

"Gas service" means that the equipment or component contains process fluid that is in the gaseous state at operating conditions.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2550 Gas/Gas Method

"Gas/gas method" means either of two methods for determining VOM capture efficiency which rely only on gas phase measurements. The first method requires construction of a temporary total enclosure (TTE) to ensure that all would-be fugitive emissions are measured. The second method uses the building or room which houses the coating line, printing line or other emission unit as an enclosure. The second method requires that all other VOM lines or emission units within the room be shut down while the test is performed, but all fans and blowers within the room must be operated according to normal procedures.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2570 Gasoline

"Gasoline" means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kPa or greater which is used as a fuel for internal combustion engines.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2590 Gasoline Dispensing Operation or Gasoline Dispensing Facility

"Gasoline dispensing operation" or "Gasoline dispensing facility" means any site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline tank used to provide fuel to the engine of that motor vehicle.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2650 Grain

"Grain" means the whole kernel or seed of corn, wheat, oats, soybeans and any other cereal or oil seed plant and the normal fines, dust and foreign matter which results from harvesting, handling or conditioning. The grain shall be unaltered by grinding or processing.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2670 Grain-Drying Operation

"Grain-drying operation" means any operation, excluding aeration, by which moisture is removed from grain and which typically uses forced ventilation with the addition of heat.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2690 Grain-Handling and Conditioning Operation

"Grain-handling and conditioning operation" means a grain storage facility and its associate grain transfer, cleaning, drying, grinding and mixing operations.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2710 Grain-Handling Operation

"Grain-handling operation" means any operation where one or more of the following grain-related processes (other than grain-drying operation, portable grain-handling equipment, one-turn storage space, and excluding flour mills and feed mills) are performed: receiving, shipping, transferring, storing, mixing or treating of grain or other processes pursuant to normal grain operations.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2730 Green-Tire Spraying

"Green tire spraying" means the spraying of green tires, both inside and outside, with release compounds which help remove air from the tire during molding and prevent the tire from sticking to the mold after curing.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2750 Green Tires

"Green tires" means assembled tires before molding and curing have occurred.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2770 Gross Heating Value

"Gross heating value" means amount of heat produced when a unit quantity of fuel is burned to carbon dioxide and water vapor, and the water vapor condensed as described in ASTM D2015-66, D900-55, D1826-64 and D240-64 incorporated by reference in Section 211.101 of this Part.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2790 Gross Vehicle Weight Rating

"Gross vehicle weight rating" means the value specified by the manufacturer as the maximum design loaded weight of a single vehicle.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2810 Heated Airless Spray

"Heated airless spray" means an airless spray coating method in which the coating is heated just prior to application.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2830 Heatset

"Heatset" means a class of lithography which requires a heated dryer to solidify the printing inks.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.2850 Heatset-Web-Offset Lithographic Printing Line

"Heatset-web-offset lithographic printing line" means a lithographic printing line in which a blanket cylinder is used to transfer ink from a plate cylinder to a substrate continuously fed from a roll or an extension process and an oven is used to solidify the printing inks.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2870 Heavy Liquid

"Heavy liquid" means liquid with a true vapor pressure of less than 0.3 kPa (0.04 psi) at 294.3°K (70°F) established in a standard reference text or as determined by ASTM method D2879-86 (incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112); or which has 0.1 Reid Vapor Pressure as determined by ASTM method D323-82 (incorporated by reference in 35 Ill. Adm. Code 215.105, 218.112 and 219.112); or which when distilled requires a temperature of 421.95°K (300°F) or greater to recover 10 percent of the liquid as determined by ASTM method D86-82 (incorporated by reference in 35 Ill. Adm. Code 215.105, 218.112 and 219.112).

(Source: Added at ___ Ill. Reg. _____; effective _______________ _____________)

Section 211.2890 Heavy Metals

"Heavy metals" means, for the purposes of Section 9.4 of the Act, elemental, ionic, or combined forms of arsenic, cadmium, mercury, chromium, nickel and lead.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2910 Heavy Off-Highway Vehicle Products

"Heavy off-highway vehicle products" means heavy construction, mining, farming, or material handling equipment; heavy industrial engines; diesel-electric locomotives and associated power generation equipment; and the constituent parts of such equipment or engines.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.2930 Heavy Off-Highway Vehicle Products Coating

"Heavy off-highway vehicle products coating" means any protective, decorative or functional coating applied onto the surface of heavy off-highway vehicle products. However, a high temperature aluminum coating to a diesel-electric locomotive in Cook County is not a heavy off-highway vehicle products coating.

(Source: Added at ___ Ill. Reg. _____, effective _________________ _____________)

Section 211.2950 Heavy Off-Highway Vehicle Products Coating Line

"Heavy off-highway vehicle products coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of heavy off-highway vehicle products. However, application of a high temperature aluminum coating to a diesel-electric locomotive in Cook County is not a heavy off-highway vehicle products coating line or part of a heavy off-highway vehicle products coating line.

(Source: Added at ___ Ill. Reg. _____, effective _________________ _____________)

Section 211.2970 High Temperature Aluminum Coating

"High temperature aluminum coating" means a coating that is certified to withstand a temperature of 537.8°C (1000°F) for 24 hours.

(Source: Added at ___ Ill. Reg. _____, effective _________________ _____________)

Section 211.2990 High Volume Low Pressure (HVLP) Spray

"High volume low pressure (HVLP) spray" means equipment used to apply coatings by means of a spray gun which operates between 0.1 and 10 psig air pressure.

(Source: Added at ___ Ill. Reg. _____, effective _________________ _____________)

Section 211.3010 Hood

"Hood" means a partial enclosure or canopy for capturing and exhausting, by means of a draft, the organic vapors or other fumes produced from a coating line, printing line or other emission unit.

(Source: Added at ___ Ill. Reg. _____, effective _________________ _____________)

Section 211.3030 Hot Well

"Hot well" means the reservoir of a condensing unit receiving the condensate from a barometric condenser.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.3050 Housekeeping Practices

"Housekeeping practices" means those activities specifically defined in the list of housekeeping practices developed by the Joint EPA - Industry Task Force and included herein under 35 Ill. Adm. Code 212.461.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.3070 Incinerator

"Incinerator" means a combustion apparatus in which refuse is burned.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.3090 Indirect Heat Transfer

"Indirect heat transfer" means transfer of heat in such a way that the source of heat does not come into direct contact with process materials.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.3110 Ink

"Ink" means a coating used in printing, impressing, or transferring words, pictures, designs or other images onto a substrate.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.3130 In-Process Tank

"In-process tank" means, with respect to manufacture of pharmaceuticals, a container used for mixing, blending, heating, reacting, holding, crystallizing, evaporating or cleaning operations.

(Source: Added at ___ Ill. Reg. _____, effective ________________
______________)

Section 211.3150 In-Situ Sampling Systems

"In-situ sampling systems" means nonexractive samplers or in-line samplers.

(Source: Added at ___ Ill. Reg. _____, effective ________________
______________)

Section 211.3170 Interior Body Spray Coat

"Interior body spray coat" means a can coating applied by spray to the interior of a can body.

(Source: Added at ___ Ill. Reg. _____, effective ________________
______________)

Section 211.3190 Internal-Floating Roof

"Internal-floating roof" means a cover or roof in a fixed-roof tank which rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(Source: Added at ___ Ill. Reg. _____, effective ________________
______________)

Section 211.3210 Internal Transferring Area

"Internal transferring area" means areas and associated equipment used for conveying grain among the various grain operations.

(Source: Added at ___ Ill. Reg. _____, effective ________________
______________)

Section 211.3230 Lacquers

"Lacquers" means, with respect to coating of wood furniture, any clear wood finishes formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction, including clear lacquer sanding sealers.

(Source: Added at ___ Ill. Reg. _____, effective ________________
______________)

Section 211.3250 Large Appliance

"Large appliance" means any residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, and other similar products.

(Source: Added at ___ Ill. Reg. _____, effective ______________ ____________)

Section 211.3270 Large Appliance Coating

"Large appliance coating" means any protective, decorative or functional coating applied onto the surface of large appliances or to the constituent metal parts (including, but not limited to, doors, cases, lids, panels, and interior support parts) of large appliances.

(Source: Added at ___ Ill. Reg. _____, effective ______________ ____________)

Section 211.3290 Large Appliance Coating Line

"Large appliance coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of large appliances or to the constituent metal parts (including but not limited to doors, cases, lids, panels and interior parts) of large appliances.

(Source: Added at ___ Ill. Reg. _____, effective ______________ ____________)

Section 211.3310 Light Liquid

"Light liquid" means VOM in the liquid state which is not defined as heavy liquid.

(Source: Added at ___ Ill. Reg. _____, effective ______________ ____________)

Section 211.3330 Light-Duty Truck

"Light-duty truck" means any motor vehicle with a gross vehicle weight rating of 3,850 kg or less, designed mainly to transport property.

(Source: Added at ___ Ill. Reg. _____, effective ______________ ____________)

Section 211.3350 Light Oil

"Light oil" means a liquid condensed or absorbed from coke oven gas composed of benzene, toluene, and xylene.

(Source: Added at ___ Ill. Reg. _____, effective ______________ ____________)

Section 211.3370 Liquid/Gas Method

"Liquid/gas method" means either of two methods for determining VOM capture efficiency which require both gas phase and liquid phase measurements and analysis. The first method requires construction of a temporary total enclosure (TTE) to ensure that all would-be fugitive emissions are measured. The second method uses the building or room which houses the coating line, printing line or other emission unit as an enclosure. The second method requires that all other VOM lines or emission units within the room be shut down while the test is performed, but all fans and blowers within the room must be operated according to normal procedures.

(Source: Added at ___ Ill. Reg. _____, effective ________________ _____________)

Section 211.3390 Liquid-Mounted Seal

"Liquid-mounted seal" means a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof edge around the circumference of the roof.

(Source: Added at ___ Ill. Reg. _____, effective ________________ _____________)

Section 211.3410 Liquid Service

"Liquid service" means that the equipment or component contains process fluid that is in a liquid state at operating conditions.

(Source: Added at ___ Ill. Reg. _____, effective ________________ _____________)

Section 211.3430 Liquids Dripping

"Liquids dripping" means any visible leaking from a seal including spraying, misting, clouding and ice formation.

(Source: Added at ___ Ill. Reg. _____, effective ________________ _____________)

Section 211.3450 Lithographic Printing Line

"Lithographic printing line" means a web or sheetfed printing line in which each roll printer uses a roll where both the image and non-image areas are essentially in the same plane (planographic).

(Source: Added at ___ Ill. Reg. _____, effective ________________ _____________)

Section 211.3470 Load-Out Area

"Load-out area" means any area where grain is transferred from the grain-handling operation to any vehicle for shipment or delivery.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3490 Low Solvent Coating

"Low solvent coating" means a coating which contains less organic solvent than the conventional coatings used by the industry. Low solvent coatings include water-borne, higher solids, electro-deposition and powder coatings.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3510 Magnet Wire

"Magnet wire" means aluminum or copper wire which may subsequently be used in an electromagnetic device.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3530 Magnet Wire Coating

"Magnet wire coating" means any electrically insulating varnish or enamel or other protective, decorative or functional coating applied onto the surface of magnet wire.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3550 Magnet Wire Coating Line

"Magnet wire coating line" means a coating line in which any electrically insulating varnish or enamel or other protective, decorative, or functional coating is applied onto the surface of magnet wire.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3570 Major Dump Pit

"Major dump pit" means any dump pit with an annual grain through-put of more than 300,000 bushels, or which receives more than 40% of the annual grain through-put of the grain-handling operation.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.3590 Major Metropolitan Area (MMA)

"Major Metropolitan Area (MMA)" means any county or group of counties which is defined by the following Table:

MAJOR METROPOLITAN AREAS IN ILLINOIS (MMA's)

MMA	COUNTIES INCLUDED IN MMA
Champaign-Urbana	Champaign
Chicago	Cook, Lake, Will, DuPage, McHenry, Kane, Grundy, Kendall, Kankakee
Decatur	Macon
Peoria	Peoria, Tazewell
Rockford	Winnebago
Rock Island - Moline	Rock Island
Springfield	Sangamon
St. Louis (Illinois)	St. Clair, Madison
Bloomington - Normal	McLean

(Source: Added at ___ Ill. Reg. _____, effective ________________ ___________)

Section 211.3610 Major Population Area (MPA)

"Major Population Area (MPA)" means areas of major population concentration in Illinois, as described below:

The area within the counties of Cook; Lake; DuPage; Will; the townships of Burton, Richmond, McHenry, Greenwood, Nunda, Door, Algonquin, Grafton and the municipality of Woodstock, plus a zone extending two miles beyond the boundary of said municipality located in McHenry County; the townships of Dundee, Rutland, Elgin, Plato, St. Charles, Campton, Geneva, Blackberry, Batavia, Sugar Creek and Aurora located in Kane County; and the municipalities of Kankakee, Bradley and Bourbonnais, plus a zone extending two miles beyond the boundaries of said municipalities in Kankakee County.

The area within the municipalities of Rockford and Loves Park, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Rock Island, Moline, East Moline, Carbon Cliff, Milan, Oak Grove, Silvis, Hampton, Greenwood and Coal Valley, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Galesburg and East Galesburg, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Bartonville, Peoria and Peoria Heights, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Pekin, North Pekin, Marquette Heights, Creve Coeur and East Peoria, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Bloomington and Normal, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Champaign, Urbana and Savoy, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Decatur, Mt. Zion, Harristown and Forsyth, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Springfield, Leland Grove, Jerome, Southern View, Grandview, Sherman and Chatham, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the townships of Godfrey, Foster, Wood River, Fort Russell, Chouteau, Edwardsville, Venice, Nameoki, Alton, Granite City and Collinsville located in Madison County; and the townships of Stites, Canteen, Centreville, Caseyville, St. Clair, Sugar Loaf and Stookey located in St. Clair County.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.3630 Manufacturing Process

"Manufacturing process" means a method whereby a process emission unit or series of process emission units is used to convert raw materials, feed stocks, subassemblies, or other constituent parts into a product, either for sale or for use in a subsequent manufacturing process.

(Source: Added at ___ Ill. Reg. _____, effective _____________)

Section 211.3650 Marine Terminal

"Marine terminal" means a facility primarily engaged in loading and unloading watercraft.

(Source: Added at ___ Ill. Reg. _____, effective _____________)

Section 211.3670 Material Recovery Section

"Material recovery section" means, with respect to manufacture of polystyrene resin, any equipment designed to transport and recover styrene monomer and other impurities from other products and by-products in a polystyrene plant, including but not limited to the styrene devolatizer unit and styrene recovery unit.

(Source: Added at ___ Ill. Reg. _____, effective _____________)

Section 211.3690 Maximum Theoretical Emissions

"Maximum theoretical emissions" means the quantity of volatile organic material emissions that theoretically could be emitted by a stationary source before add-on controls based on the design capacity or maximum production capacity of the source and 8760 hours per year. The design capacity or maximum production capacity includes use of coating(s) or ink(s) with the highest volatile organic material content actually used in practice by the source, provided, however, the Agency shall, when appropriate, and upon request by the permit applicant, limit the "maximum theoretical emissions" of a source by the imposition of conditions in a federally enforceable operating permit for such source. Such conditions shall not be inconsistent with requirements of the Clean Air Act, as amended, or any applicable requirements established by the Board. Such conditions shall be established in place of design capacity or maximum production capacity in calculating the "maximum theoretical emissions" for such source and may include, among other things, the establishment of production limitations, capacity limitations, or limitations on the volatile organic material content of coatings or inks, or the hours of operation of any emission unit, or a combination of any such limitations. Production or capacity limitations shall be established on a basis of no longer than one month except in those cases where a limit spanning a longer period of time is appropriate. In such cases, a limit or limitation must not exceed an annual limit rolled on a basis of into a product, either for sale or for use in a subsequent manufacturing process.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3650 Marine Terminal

"Marine terminal" means a facility primarily engaged in loading and unloading watercraft.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3670 Material Recovery Section

"Material recovery section" means, with respect to manufacture of polystyrene resin, any equipment designed to transport and recover styrene monomer and other impurities from other products and by-products in a polystyrene plant, including but not limited to the styrene devolatizer unit and styrene recovery unit.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3690 Maximum Theoretical Emissions

"Maximum theoretical emissions" means the quantity of volatile organic material emissions that theoretically could be emitted by a stationary source before add-on controls based on the design capacity or maximum production capacity of the source and 8760 hours per year. The design capacity or maximum production capacity includes use of coating(s) or ink(s) with the highest volatile organic material content actually used in practice by the source, provided, however, the Agency shall, when appropriate, and upon request by the permit applicant, limit the "maximum theoretical emissions" of a source by the imposition of conditions in a federally enforceable operating permit for such source. Such conditions shall not be inconsistent with requirements of the Clean Air Act, as amended, or any applicable requirements established by the Board. Such conditions shall be established in place of design capacity or maximum production capacity in calculating the "maximum theoretical emissions" for such source and may include, among other things, the establishment of production limitations, capacity limitations, or limitations on the volatile organic material content of coatings or inks, or the hours of operation of any emission unit, or a combination of any such limitations. Production or capacity limitations shall be established on a basis of no longer than one month except in those cases where a limit spanning a longer period of time is appropriate. In such cases, a limit or limitation must not exceed an annual limit rolled on a basis of at most a month; that is, for example, a monthly production or a capacity level must be determined for each parameter subject to a production or capacity limitation and added to the eleven prior monthly levels for monthly comparison with the annual limit. Any production or capacity limitations shall be verified through appropriate recordkeeping.

(Board Note: The USEPA may deem operating permits which do not conform to the operating permit program requirements and the requirements of USEPA's underlying regulations, including the requirement that limitations be quantifiable and enforceable as a practical matter, not "federally enforceable.")

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3710 Metal Furniture

"Metal furniture" means a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, lamps, and room dividers made in whole or in part of metal.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3730 Metal Furniture Coating

"Metal furniture coating" means any protective, decorative or functional coating applied onto the surface of any metal furniture or any metal part which will be assembled with other metal, wood, fabric, plastic or glass parts to form metal furniture. However, an adhesive is not a metal furniture coating.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3750 Metal Furniture Coating Line

"Metal furniture coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of any metal furniture or any metal part which will be assembled with other metal, wood, fabric or glass parts to form metal furniture. However, application of an adhesive is not a metal furniture coating line or part of a metal furniture coating line.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3770 Metallic Shoe-Type Seal

"Metallic shoe-type seal" means a primary or secondary seal constructed of metal sheets (shoes) which are joined together to form a ring, springs or levers which attach the shoes to the floating roof and hold the shoes against the tank wall, and a coated membrane which is suspended from the shoes to the floating roof.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3790 Miscellaneous Fabricated Product Manufacturing Process

"Miscellaneous fabricated product manufacturing process" means:

A manufacturing process involving one or more of the following applications, including any drying and curing of formulations, and capable of emitting VOM:

~~Adhesives to fabricate or assemble parts or~~ products;

Asphalt solutions to paper or fiberboard;

Asphalt to paper or felt;

Coatings or dye to leather;

Coatings to plastic;

Coatings to rubber or glass;

Disinfectant material to manufactured items;

Plastic foam scrap or "fluff" from the manufacture of foam containers and packaging material to form resin pellets;

Resin solutions to fiber substances;

Rubber solutions to molds; or

Viscose solutions for food casings.

The storage and handling of formulations associated with the process described above and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition would be included.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3810 Miscellaneous Formulation Manufacturing Process

"Miscellaneous formulation manufacturing process" means:

A manufacturing process which compounds one or more of the following and is capable of emitting VOM:

Adhesives;

Asphalt solutions;

Caulks, sealants, or waterproofing agents;

Coatings, other than paint and ink;

Concrete curing compounds;

Dyes;

Friction materials and compounds;

Resin solutions;

Rubber solutions; or

Viscose solutions.

The storage and handling of formulations associated with the process described above, and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition would be included.

(Source: Added at ___ Ill. Reg. _____, effective ________________ _____________)

Section 211.3830 Miscellaneous Metal Parts and Products

"Miscellaneous metal parts and products" for the purpose of 35 Ill. Adm. Code 215. Subpart F, shall include farm machinery, garden machinery, small appliances, commercial machinery, industrial machinery, fabricated metal products and any other industrial category in which metal parts or products under the Standard Industrial Classification Code for Major Groups 33, 34, 35, 36, 37, 38 or 39 are coated, with the exception of the following: coating lines subject to 35 Ill. Adm. Code 215.204(a) through (i) and (k), architectural coatings, automobile or light-duty truck refinishing, the exterior of marine vessels and the customized top coating of automobiles and trucks if production is less than thirty-five vehicles per day.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.3850 Miscellaneous Metal Parts and Products Coating

"Miscellaneous metal parts and products coating" means, for purposes of 35 Ill. Adm. Code 218 and 219, any protective, decorative or functional coating applied onto the surface of any metal part or metal product, even if attached to or combined with a nonmetal part or product;

a) Including but not limited to underbody anti-chip (e.g., underbody plastisol) automobile and light-duty truck coatings;

b) But not including the following coatings which are subject to separate regulations: can coatings, coil coatings, metal furniture coatings, large appliance coatings, magnet wire coatings, and prime coat, primer surfacer coat, topcoat and final repair coat for automobile and light-duty trucks; and

c) Not including the following coatings: architectural coatings, automobile or light-duty truck refinishing coatings, coatings applied to the exterior of marine vessels, coatings applied to the exterior of airplanes, customized topcoat for automobiles and trucks if production is less than thirty-five vehicles per day, and high temperature aluminum coating applied to diesel-electric locomotives in Cook County.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.3870 Miscellaneous Metal Parts or Products Coating Line

"Miscellaneous metal parts or products coating line" means, for purposes of 35 Ill. Adm. Code 218 and 219, a coating line in which any protective, decorative, or functional coating is applied onto the surface of any metal part or metal product, even if attached to or combined with a nonmetal part or product;

a) Including but not limited to underbody anti-chip (e.g., underbody plastisol) automobile and light-duty truck coatings;

b) But not including the following coatings which are subject to separate regulations: can coatings, coil coatings, metal furniture coatings, large appliance coatings, magnet wire coatings, and prime coat, primer surfacer coat, topcoat and final repair coat for automobile and light-duty trucks; and

c) Not including the following coatings: architectural coatings, automobile or light-duty truck refinishing coatings, coatings applied to the exterior of marine vessels, coatings applied to the exterior of airplanes, customized topcoat for automobiles and trucks if production is less than thirty-five vehicles per day, and high temperature aluminum coating applied to diesel-electric locomotives in Cook County.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.3890 Miscellaneous Organic Chemical Manufacturing Process

"Miscellaneous organic chemical manufacturing process" means:

A manufacturing process which produces, by chemical reaction, one or more of the following organic compounds or mixtures of organic compounds and which is capable of emitting volatile organic material (VOM):

Chemicals listed in Appendix A of 35 Ill. Adm. Code 215, 218 or 219, as applicable;

Chlorinated and sulfonated compounds;

Cosmetic, detergent, soap, or surfactant intermediaries or specialties and products;

~~Disinfectants;~~

Food additives;

Oil and petroleum product additives;

Plasticizers;

Resins or polymers;

Rubber additives;

Sweeteners; or

Varnishes.

The storage and handling of formulations associated with the process described above and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition would be included.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.3910 Mixing Operation

"Mixing operation" means the operation of combining two or more ingredients, of which at least one is a grain.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.3930 Monitor

"Monitor" means to measure and record.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.3970 Multiple Package Coating

"Multiple package coating" means a coating made from more than one different ingredient which must be mixed prior to using and has a limited pot life due to the chemical reaction which occurs upon mixing.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.3990 New Grain-Drying Operation

"New grain-drying operation" means any grain-drying operation the construction or modification of which commenced on or after June 30, 1975.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.4010 New Grain-Handling Operation

"New grain-handling operation" means any grain-handling operation the construction or modification of which commenced on or after June 30, 1975.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.4030 No Detectable Volatile Organic Material Emissions

"No detectable volatile organic material emissions" means a discharge of volatile organic material into the atmosphere as indicated by an instrument reading of less than 500 ppm above background as determined in accordance with 40 CFR 60.485(c) (incorporated by reference in 35 Ill. Adm. Code 215.105, 218.112, and 219.112).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4050 Non-contact Process Water Cooling Tower

"Non-contact process water cooling tower" means a towerlike device in which water is cooled by contact with atmospheric air and evaporation, where such water has been or will be used for cooling of a process stream where VOM is present without intentional direct contact of the cooling water and process stream.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4070 Offset

"Offset" means, with respect to printing, use of a blanket cylinder to transfer ink from the plate cylinder to the surface to be printed.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4090 One Hundred Percent Acid

"One hundred percent acid" means, with respect to sulfuric and nitric acids, acid with a specific gravity of 1.8205 at 30° C in the case of sulfuric acid and 1.4952 at 30° C in the case of nitric acid.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4110 One-Turn Storage Space

"One-turn storage space" means that space used to store grain with a total annual through-put not in excess of the total bushel storage of that space.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4130 Opacity

"Opacity" means a condition which renders material partially or wholly impervious to transmittance of light and causes obstruction of an observer's view. For the purposes of these regulations, the following equivalence between opacity and Ringelmann shall be employed:

Opacity Percent	Ringelmann
10	0.5
20	1.
30	1.5
40	2.
60	3.
80	4.
100	5.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4150 Opaque Stains

"Opaque stains" means all stains that are not semi-transparent stains.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4170 Open Top Vapor Degreasing

"Open top vapor degreasing" means the batch process of cleaning and removing soils from surfaces by condensing hot solvent vapor on the colder metal parts.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4190 Open-Ended Valve

"Open-ended valve" means any valve, except pressure relief devices, having one side of the valve in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4210 Operator of a Gasoline Dispensing Operation or Operator of a Gasoline Dispensing Facility

"Operator of gasoline dispensing operation" or "Operator of a gasoline dispensing facility" means any person who is the lessee of or operates, controls or supervises a gasoline dispensing operation or a gasoline dispensing facility.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.4230 Organic Compound

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

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.4250 Organic Material and Organic Materials

a) "Organic materials" means, for the purposes of Section 9.4 of the Act, any chemical compound of carbon, including diluents and thinners which are liquids at standard conditions and which are used as dissolvers, viscosity reducers or cleaning agents, including polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans and polynuclear aromatic hydrocarbons but excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbonic acid, metallic carbide, metallic carbonates and ammoniun carbonate are not organic materials.

b) "Organic material" means, for the purpose of 35 Ill. Adm. Code 215, 218 and 219, any chemical compound of carbon including diluents and thinners which are liquids at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents, but excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbonic acid, metallic carbide, metallic carbonates, and ammonium carbonate.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.4270 Organic Vapor

"Organic vapor" means the gaseous phase of an organic material or a mixture of organic materials present in the atmosphere.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.4290 Oven

"Oven" means, with respect to a coating line or printing line, a chamber within which heat is used for one or more of the following purposes: dry, bake, cure, or polymerize a coating or ink.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4310 Overall Control

"Overall control" means the product of the capture efficiency and the control device efficiency.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4330 Overvarnish

"Overvarnish" means a transparent coating applied directly over ink or coating.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4350 Owner of a Gasoline Dispensing Operation or Owner of a Gasoline Dispensing Facility

"Owner of a gasoline dispensing operation" or "Owner of a gasoline dispensing facility" means any person who has legal or equitable title to a stationary storage tank at a gasoline dispensing operation.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4370 Owner or Operator

"Owner or operator" means any person who owns, operates, leases, controls, or supervises a source, an emission unit or air pollution control equipment.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4390 Packaging Rotogravure Printing

"Packaging rotogravure printing" means rotogravure printing upon paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operations, formed into packaging products or labels for articles to be sold.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4410 Packaging Rotogravure Printing Line

"Packaging rotogravure printing line" means a rotogravure printing line performing packaging rotogravure printing.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4430 Pail

"Pail" means any cylindrical shipping container of 1 to 12-gallon capacity and constructed of 29-gauge and heavier material.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4450 Paint Manufacturing Source or Paint Manufacturing Plant

"Paint manufacturing source" or "Paint manufacturing plant" means a source that mixes, blends, or compounds enamels, lacquers, sealers, shellacs, stains, varnishes, or pigmented surface coatings.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4470 Paper Coating

"Paper coating" means any protective, decorative or functional coating applied on paper, plastic film, or metallic foil to make certain products, including but not limited to adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, or pressure sensitive tapes. For purposes of 35 Ill. Adm. Code 218 and 219, paper coating includes coatings applied by impregnation or saturation.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4490 Paper Coating Line

"Paper coating line" means a coating line in which any protective, decorative, or functional coating is applied on, saturated into, or impregnated into paper, plastic film, or metallic foil to make certain products, including but not limited to adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper and pressure sensitive tapes. For purposes of 35 Ill. Adm. Code 218 and 219, a paper coating line includes saturation or impregnation.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.4510 Particulate Matter

"Particulate matter" means any solid or liquid material, other than water, which exists in finely divided form.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.4530 Parts Per Million (Volume) or PPM (Vol)

"Parts per million (volume)" or "PPM (vol)" means a volume/volume ratio which expresses the volumetric concentration of gaseous air contaminant in a million unit volume of gas.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.4550 Person

"Person" means any individual; corporation; partnership; firm; association; trust; estate; public or private institution; group; state; municipality; political subdivision of a state; any agency, department, or instrumentality of the United States; and any officer, agent, or employee of any of the above.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.4590 Petroleum

"Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.4610 Petroleum Liquid

"Petroleum liquid" means crude oil, condensate or any finished or intermediate product manufactured at a petroleum refinery, but not including Number 2 through Number 6 fuel oils as specified in ASTM D-396-69 (incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112), gas turbine fuel oils Numbers 2-GT through 4-GT as specified in ASTM D-2880-71 (incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112) or diesel fuel oils

Numbers 2-D and 4-D, as specified in ASTM D-975-68 (incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112).

(Source: Added at ___ Ill. Reg. _____, effective _________________)

Section 211.4630 Petroleum Refinery

"Petroleum refinery" means any source engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum, or through redistillation, cracking, or reforming of unfinished petroleum derivatives.

(Source: Added at ___ Ill. Reg. _____, effective _________________)

Section 211.4650 Pharmaceutical

"Pharmaceutical" means any compound or mixture, other than food, used in the prevention, diagnosis, alleviation, treatment, or cure of disease in human and animal.

(Source: Added at ___ Ill. Reg. _____, effective _________________)

Section 211.4670 Pharmaceutical Coating Operation

"Pharmaceutical coating operation" means a device in which a coating is applied to a pharmaceutical, including air drying or curing of the coating.

(Source: Added at ___ Ill. Reg. _____, effective _________________)

Section 211.4690 Photochemically Reactive Material

"Photochemically reactive material" means any organic material with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or the composition of which exceeds any of the following individual percentage composition limitations. Whenever any photochemically reactive material or any constituent of any organic material may be classified from its chemical structure into more than one of the above groups of organic materials, it shall be considered as a member of the most reactive group, that is, the group having the least allowable percent of the total organic materials.

> A combination of hydrocarbons, alcohols, aldehydes, esters, ethers or ketones having an olefinic or cyclo-olefinic types of unsaturation: 5 percent. This

definition does not apply to perchloroethylene or trichloroethylene.

A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.

A combination of ethylbenzene, ketones having branched hydrocarbon structures or toluene: 20 percent.

(Source: Added at ___ Ill. Reg. _____, effective ______________)

Section 211.4710 Pigmented Coatings

"Pigmented coatings" means opaque coatings containing binders and colored pigments which are formulated to conceal the wood surface either as an undercoat or topcoat.

(Source: Added at ___ Ill. Reg. _____, effective ______________)

Section 211.4730 Plant

"Plant" means, for purposes other than 35 Ill. Adm. Code 215, 218 and 219, all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control), except the activities of any marine vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e., which have the same two-digit code) as described in the "Standard Industrial Classification Manual," 1987 (incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112).

(Source: Added at ___ Ill. Reg. _____, effective ______________)

Section 211.4750 Plasticizers

"Plasticizers" means substances added to a polymer composition to soften and add flexibility to the product.

(Source: Added at ___ Ill. Reg. _____, effective ______________)

Section 211.4770 PM-10

"PM-10" means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers, as measured by the applicable test methods specified by rule. Ambient air concentrations for PM-10 are usually expressed in micrograms per cubic meter (ug/m^3).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4790 Pneumatic Rubber Tire Manufacture

"Pneumatic rubber tire manufacture" means the production of pneumatic rubber tires with a bead diameter up to but not including 20.0 inches and cross section dimension up to 12.8 inches, but not including specialty tires for antique or other vehicles when produced on equipment separate from normal production lines for passenger or truck type tires.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4810 Polybasic Organic Acid Partial Oxidation Manufacturing Process

"Polybasic organic acid partial oxidation manufacturing process" means any process involving partial oxidation of hydrocarbons with air to manufacture polybasic acids or their anhydrides, such as maleic anhydride, phthalic anhydride, terephthalic acid, isophthalic acid, trimelletic anhydride.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4870 Polystyrene Plant

"Polystyrene plant" means any collection of process units and associated storage facilities at a source engaged in using styrene to manufacture polystyrene resin.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4890 Polystyrene Resin

"Polystyrene resin" means a substance consisting of styrene polymer and additives which is manufactured at a polystyrene plant.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4910 Portable Grain-Handling Equipment

"Portable grain-handling equipment" means any equipment (excluding portable grain dryers) that is designed and maintained to be movable primarily for use in a non-continuous operation for loading and unloading one-turn storage space and is not physically connected to the grain elevator, provided that the manufacturer's rated capacity of the equipment does not exceed 10,000 bushels per hour.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4930 Portland Cement Manufacturing Process Emission Source

"Portland cement manufacturing process emission source" means any items of process equipment or manufacturing processes used in or associated with the production of portland cement, including, but not limited to, a kiln, clinker cooler, raw mill system, finish mill system, raw material dryer, material storage bin or system, material conveyor belt or other transfer system, material conveyor belt transfer point, bagging operation, bulk unloading station, or bulk loading station.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4950 Portland Cement Process or Portland Cement Manufacturing Plant

"Portland cement process" or "Portland cement manufacturing plant" means any facility or plant manufacturing portland cement by either the wet or dry process.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.4990 Power Driven Fastener Coating

"Power driven fastener coating" means the coating of nail, staple, brad and finish nail fasteners where such fasteners are fabricated from wire or rod of 0.0254 inch diameter or greater, where such fasteners are bonded into coils or strips, such coils and strips containing a number of such fasteners, which fasteners are manufactured for use in power tools, and which fasteners must conform with formal standards for specific uses established by various federal and national organizations including Federal Specification FF-N-105b of the General Services Administration dated August 23, 1977 (does not include any later amendments or editions; U.S. Army Armament Research and Development Command, Attn: DRDAR-TST, Rock Island, IL 61201), Bulletin UM-25d of the

U.S. Department of Housing and Urban Development - Federal Housing Administration dated September 5, 1973 (does not include any later amendments or editions; Department of HUD, 547 W. Jackson Blvd., Room 1005, Chicago, IL 60606), and the Model Building Code of the Council of American Building Officials, and similar standards. For the purposes of this definition, the terms "brad" and "finish nail" refer to single leg fasteners fabricated in the same manner as staples. The application of coatings to staple, brad, and finish nail fasteners may be associated with the incremental forming of such fasteners in a cyclic or repetitious manner (incremental fabrication) or with the forming of strips of such fasteners as a unit from a band of wires (unit fabrication).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5030 Pressure Release

"Pressure release" means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5050 Pressure Tank

"Pressure tank" means a tank in which fluids are stored at a pressure greater than atmospheric pressure.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5070 Prime Coat

"Prime coat" means the first of two or more coatings applied to a substrate in a multiple coat operation.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5090 Primer Surfacer Coat

"Primer surfacer coat" means a coating used to touch up areas on the surface of automobile or light-duty truck bodies not adequately covered by the prime coat before application of the top coat. The primer surfacer coat is applied between the prime coat and topcoat. An anti-chip coating applied to main body parts (e.g., rocker panels, bottom of doors and fenders, and leading edge of roof) is a primer surfacer coat. The primer surfacer coat is also referred to as a "guide coat."

(Source: Added at ___ Ill. Reg. _____, effective _______________
_____________)

Section 211.5110 Primer Surfacer Operation

"Primer surfacer operation" means the application area(s), flashoff area(s) and oven(s) that are used to apply and dry or cure primer surfacer coat on a single assembly line.

(Source: Added at ___ Ill. Reg. _____, effective _______________
_____________)

Section 211.5130 Primers

"Primers" means any coatings formulated and applied to substrates to provide a firm bond between the substrate and subsequent coats.

(Source: Added at ___ Ill. Reg. _____, effective _______________
_____________)

Section 211.5150 Printing

"Printing" means the application of words, designs, pictures, or other images to a substrate using ink.

(Source: Added at ___ Ill. Reg. _____, effective _______________
_____________)

Section 211.5170 Printing Line

"Printing line" means an operation consisting of a series of one or more roll printers and any associated roll coaters, drying areas, and ovens wherein one or more coatings are applied, dried, and/or cured.

(Source: Added at ___ Ill. Reg. _____, effective _______________
_____________)

Section 211.5185 Process Emission Source

"Process emission source" means any stationary emission source other than a fuel combustion emission unit or an incinerator.

(Source: Added at ___ Ill. Reg. _____, effective _______________
_____________)

Section 211.5190 Process Emission Unit

"Process emission unit" means any stationary emission unit other than a fuel combustion emission unit or an incinerator.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5210 Process Unit

"Process unit" means equipment and components assembled to produce, as intermediate or final products, one or more chemicals. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. For purposes of Subpart Q of Parts 215, 218 and 219, a process unit must produce one or more of the chemicals listed in Appendix A of 35 Ill. Adm. Code 215, 218 or 219, as applicable.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5230 Process Unit Shutdown

"Process unit shutdown" means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and components and technically feasible bypassing of equipment and components without stopping production is not a process unit shutdown.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5250 Process Weight Rate

"Process weight rate" means the actual weight or engineering approximation thereof of all materials except liquid and gaseous fuels and combustion air introduced into any process per hour. For a cyclical or batch operation, the process weight rate shall be determined by dividing such actual weight or engineering approximation thereof by the number of hours of operation excluding any time during which the equipment is idle. For continuous processes, the process weight rate shall be determined by dividing such actual weight or engineering approximation thereof by the number of hours in one complete operation, excluding any time during which the equipment is idle.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5270 Production Equipment Exhaust System

"Production equipment exhaust system" means a system for collecting and directing into the atmosphere emissions of volatile organic material from reactors, centrifuges, and other process emission units.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5310 Publication Rotogravure Printing Line

"Publication rotogravure printing line" means a rotogravure printing line printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements or other types of non-packaging printed materials.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5330 Purged Process Fluid

"Purged process fluid" means liquid or vapor from a process unit that contains volatile organic material and that results from flushing or cleaning the sample line(s) of a process unit so that an uncontaminated sample may then be taken for testing or analysis.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5350 Reactor

"Reactor" means a vat, vessel, or other device in which chemical reactions take place.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5370 Reasonably Available Control Technology (RACT)

"Reasonably available control technology (RACT)" means the lowest emission limitation that an emission unit is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5410 Refiner

"Refiner" means any person who owns, leases, operates, controls, or supervises a refinery.

(Source: Added at ___ Ill. Reg. _____, effective ______________________________)

Section 211.5430 Refinery Fuel Gas

"Refinery fuel gas" means any gas which is generated by a petroleum refinery process unit and which is combusted at the refinery, including any gaseous mixture of natural gas and fuel gas.

(Source: Added at ___ Ill. Reg. _____, effective ______________________________)

Section 211.5450 Refinery Fuel Gas System

"Refinery fuel gas system" means a system for collection of refinery fuel gas including, but not limited to, piping for collecting tail gas from various process units, mixing drums and controls, and distribution piping.

(Source: Added at ___ Ill. Reg. _____, effective ______________________________)

Section 211.5470 Refinery Unit or Refinery Process Unit

"Refinery unit" or "Refinery process unit" means a set of equipment which are a part of a basic process operation such as distillation, hydrotreating, cracking, or reforming of hydrocarbons.

(Source: Added at ___ Ill. Reg. _____, effective ______________________________)

Section 211.5490 Refrigerated Condenser

"Refrigerated condenser" means a surface condenser in which the coolant supplied to the condenser has been cooled by a mechanical device, other than by a cooling tower or evaporative spray cooling, such as refrigeration unit or steam chiller unit.

(Source: Added at ___ Ill. Reg. _____, effective ______________________________)

Section 211.5510 Reid Vapor Pressure

"Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases as determined by the method referenced in the Section where the term is used or by ASTM D323-89 (if not referenced in the Section where the term is used), incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5550 Repair Coat

"Repair coat" means, with respect to coating wood furniture, coatings used to correct imperfections or damage to furniture surface.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5570 Repaired

"Repaired" means, for the purpose of Subpart Q of 35 Ill. Adm. Code 215, 218 and 219, that equipment or a component has been adjusted, or otherwise altered, to eliminate a leak.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5590 Residual Fuel Oil

"Residual fuel oil" means fuel oils of grade No. 4, 5 and 6 as specified in detailed requirements for fuel oils ASTM D-396-69 (1971) incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5610 Restricted Area

"Restricted area" means the area within the boundaries of any "municipality" as defined in the Illinois Municipal Code, plus a zone extending one mile beyond the boundaries of any such municipality having a population of 1000 or more according to the latest federal census.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5630 Retail Outlet

"Retail outlet" means any gasoline dispensing operation at which gasoline is sold or offered for sale for use in motor vehicles.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.5650 Ringelmann Chart

"Ringelmann chart" means the chart published and described in the Bureau of Mines, U.S. Department of Interior, Information Circular 8333 (Revision of IC7718) May 1, 1967, or any adaptation thereof which has been approved by the Agency.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5670 Roadway

"Roadway" means any street, highway, road, alley, sidewalk, parking lot, airport, rail bed or terminal, bikeway, pedestrian mall or other structure used for transportation purposes.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5690 Roll Coater

"Roll coater" means an apparatus used for roll coating.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5710 Roll Coating

"Roll coating" means a method of applying a coating to a moving substrate by means of rotating hard rubber, elastomeric or metal rolls.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5730 Roll Printer

"Roll printer" means an apparatus used for roll printing.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5750 Roll Printing

"Roll printing" means the method of printing by means of a series of rolls, usually of hard rubber or metal, each with only partial coverage.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5770 Rotogravure Printing

"Rotogravure printing" means roll printing in which the pattern to be applied is recessed in the roll relative to the non-image area.

(Source: Added at ___ Ill. Reg. _____, effective ____________ ____________)

Section 211.5790 Rotogravure Printing Line

"Rotogravure printing line" means a printing line performing rotogravure printing.

(Source: Added at ___ Ill. Reg. _____, effective ____________ ____________)

Section 211.5810 Safety Relief Valve

"Safety relief valve" means a valve which is normally closed and which is designed to open in order to relieve excessive pressures within a vessel or pipe.

(Source: Added at ___ Ill. Reg. _____, effective ____________ ____________)

Section 211.5830 Sandblasting

"Sandblasting" means the use of a mixture of sand and air at high pressures for cleaning and/or polishing any type of surface.

(Source: Added at ___ Ill. Reg. _____, effective ____________ ____________)

Section 211.5850 Sanding Sealers

"Sanding sealers" means any coatings formulated for and applied to bare wood for sanding and to seal the wood for subsequent application of varnish. To be considered a sanding sealer a coating must be clearly labelled as such.

(Source: Added at ___ Ill. Reg. _____, effective ____________ ____________)

Section 211.5870 Screening

"Screening" means separating material according to size by pressing undersized material through one or more mesh surfaces (screens) in series, and retaining oversized material on the mesh surfaces (screens).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5890 Sealer

"Sealer" means a coating containing binders which seals wood prior to the application of the subsequent coatings.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5910 Semi-Transparent Stains

"Semi-transparent stains" means stains containing dyes or semi-transparent pigments which are formulated to enhance wood grain and change the color of the surface but not to conceal the surface, including, but not limited to, sap stain, toner, non-grain raising stains, pad stain, or spatter stain.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5930 Sensor

"Sensor" means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5950 Set of Safety Relief Valves

"Set of safety relief valves" means one or more safety relief valves designed to open in order to relieve excessive pressures in the same vessel or pipe.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5970 Sheet Basecoat

"Sheet basecoat" means a coating applied to metal when the metal is in sheet form to serve as either the exterior or interior of a can for either two-piece or three-piece cans.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.5990 Shotblasting

"Shotblasting" means the use of a mixture of any metallic or non-metallic substance and air at high pressures for cleaning and/or polishing any type of surface.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6010 Side-Seam Spray Coat

"Side-seam spray coat" means a can coating applied to the seam of a three-piece can.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6030 Smoke

"Smoke" means small gas-borne particles resulting from incomplete combustion, consisting predominately but not exclusively of carbon, ash and other combustible material, that form a visible plume in the air.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6050 Smokeless Flare

"Smokeless flare" means a combustion unit and the stack to which it is affixed in which organic material achieves combustion by burning in the atmosphere such that the smoke or other particulate matter emitted to the atmosphere from such combustion does not have an appearance density or shade darker that No. 1 of the Ringlemann Chart.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6070 Solvent

"Solvent" means a liquid substance that is used to dissolve or dilute another substance. This term includes, but is not limited to organic materials used as dissolvers, viscosity reducers, degreasing agents, or cleaning agents.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6090 Solvent Cleaning

"Solvent cleaning" means the process of cleaning soils from surfaces by cold cleaning, open top vapor degreasing, or conveyorized degreasing.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6130 Source

"Source" means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person or persons under common control) belonging to a single major industrial grouping. For the purposes of defining "source," a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent property belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987 (incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6150 Specialty High Gloss Catalyzed Coating

"Specialty high gloss catalyzed coating" means commercial contract finishing of material prepared for printers and lithographers where the finishing process uses a solvent-borne coating, formulated with a catalyst, in a quantity of no more than 12,000 gallons/year as supplied, where the coating machines are sheet fed and the coated sheets are brought to a minimum surface temperature of 190° F, and where the coated sheets are to achieve the minimum specular reflectance index of 65 measured at a 60 degree angle with a gloss meter.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6190 Specialty Soybean Crushing Source

"Specialty soybean crushing source" means any hexane extraction soybean crushing equipment using indirect steam heat in flash or vapor desolventizers as the primary method of desolventizing and producing specialty solvent extracted soy flakes, grits or flour.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6210 Splash Loading

"Splash loading" means a method of loading a tank, railroad tank car, tank truck, or trailer by use of other than a submerged loading pipe.

(Source: Added at ___ Ill. Reg. _____, effective _________________ ____________)

Section 211.6230 Stack

"Stack" means a flue or conduit, free-standing or with exhaust port above the roof of the building on which it is mounted, by which air contaminants are emitted into the atmosphere.

(Source: Added at ___ Ill. Reg. _____, effective _________________ ____________)

Section 211.6270 Standard Conditions

"Standard conditions" means a temperature of 70°F and a pressure of 14.7 psia.

(Source: Added at ___ Ill. Reg. _____, effective _________________ ____________)

Section 211.6290 Standard Cubic Foot (scf)

"Standard cubic foot (scf)" means the volume of one cubic foot of gas at standard conditions.

(Source: Added at ___ Ill. Reg. _____, effective _________________ ____________)

Section 211.6310 Start-Up

"Start-up" means the setting in operation of an emission unit for any purpose.

(Source: Added at ___ Ill. Reg. _____, effective _________________ ____________)

Section 211.6330 Stationary Emission Source

"Stationary emission source" means an emission source which is not self-propelled.

(Source: Added at ___ Ill. Reg. _____, effective _________________ ____________)

Section 211.6350 Stationary Emission Unit

"Stationary emission unit" means an emission unit which is not self-propelled.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.6370 Stationary Source

"Stationary source" means any building, structure, facility, or installation that emits or may emit any air pollutant.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.6390 Stationary Storage Tank

"Stationary storage tank" means any container of liquid or gas which is designed and constructed to remain at one site.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.6410 Storage Tank or Storage Vessel

"Storage tank or storage vessel" means any tank, reservoir or container used for the storage of liquid or gaseous material.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.6430 Styrene Devolatilizer Unit

"Styrene devolatilizer unit" means equipment performing the function of separating unreacted styrene monomer and other volatile components from polystyrene in a vacuum devolatilizer.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.6450 Styrene Recovery Unit

"Styrene recovery unit" means equipment performing the function of separating styrene monomer from other less volatile components of the styrene devolatilizer unit's output. The separated styrene monomer may be reused as a raw material in the polystyrene plant.

(Source: Added at ___ Ill. Reg. _____, effective _______________ ____________)

Section 211.6470 Submerged Loading Pipe

a) "Submerged loading pipe" means, for purposes of 35 Ill. Adm. Code 215, any loading pipe the discharge opening of which is entirely submerged when the liquid level is 6 inches above the bottom of the tank. When applied to a tank which is loaded from the side, "submerged loading pipe" means any loading pipe the discharge of which is entirely submerged when the liquid level is 18 inches or two times the loading pipe diameter, whichever is greater, above the bottom of the tank. The definition shall also apply to any loading pipe which is continuously submerged during loading operations.

b) "Submerged loading pipe" means, for purposes of 35 Ill. Adm. Code 218 and 219, any discharge pipe or nozzle which meets either of the following conditions:

1) Where the tank is filled from the top, the end of the discharge pipe or nozzle must be totally submerged when the liquid level is 15 cm (6 in.) above the bottom of the tank.

2) Where the tank is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is 46 cm (18 in.) above the bottom of the tank.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6490 Substrate

"Substrate" means the surface onto which a coating is applied or into which a coating is impregnated.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6510 Sulfuric Acid Mist

"Sulfuric acid mist" means sulfuric acid mist as measured according to the method specified in 35 Ill. Adm. Code 214.101(b).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6530 Surface Condenser

"Surface condenser" means a device which removes a substance from a gas stream by reducing the temperature of the stream, without direct contact between the coolant and the stream.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6550 Synthetic Organic Chemical or Polymer Manufacturing Plant

"Synthetic organic chemical or polymer manufacturing plant" means a source that produces, as intermediates or final products, chemicals or polymers.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6570 Tablet Coating Operation

"Tablet coating operation" means a pharmaceutical coating operation in which tablets are coated.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6590 Thirty Day Rolling Average

"Thirty day rolling average" means any value arithmetically averaged over any consecutive thirty days.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6610 Three-Piece Can

"Three-piece can" means a can which is made from a rectangular sheet and two circular ends.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6670 Topcoat

"Topcoat" means a coating applied to a substrate in a multiple coat operation other than prime coat, primer surfacer coat or final repair coat.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6690 Topcoat Operation

"Topcoat operation" means the application area(s), flash-off area(s), and oven(s) used to apply and dry or cure the topcoat (except final off-line repair) on automobile or light-duty truck bodies or body parts on a single assembly line.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6730 Transfer Efficiency

"Transfer efficiency" means the ratio of the amount of coating solids deposited onto a part or product to the total amount of coating solids used, during a particular time period.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6750 Tread End Cementing

"Tread end cementing" means the application of a solvent-based cement to the tire tread ends.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6770 True Vapor Pressure

"True vapor pressure" means the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks," second edition, February 1980 (incorporated by reference in 35 Ill. Adm. Code 218.112 and 219.112).

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6790 Turnaround

"Turnaround" means, with respect to a refinery process unit, the procedure of shutting down an operating refinery unit, emptying gaseous and liquid contents to do inspection, maintenance and repair work, and putting the unit back into production.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.6810 Two-Piece Can

"Two-piece can" means a can that consists of a body manufactured i.e., drawn, from a single piece of metal and one top or end.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ______________)

Section 211.6850 Undertread Cementing

"Undertread cementing" means the application of a solvent-based cement to the underside of a tire tread.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ______________)

Section 211.6870 Unregulated Safety Relief Valve

"Unregulated safety relief valve" means a safety relief valve which cannot be actuated by a means other than high pressure in the pipe or vessel which it protects.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ______________)

Section 211.6890 Vacuum Producing System

"Vacuum producing system" means any reciprocating, rotary, or centrifugal blower or compressor or any jet ejector or device that creates suction from a pressure below atmospheric and discharges against a greater pressure.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ______________)

Section 211.6910 Vacuum Service

"Vacuum service" means, for the purpose of Subpart Q of this 35 Ill. Adm. Code 215, 218 and 219, equipment or a component which is operating at an internal pressure that is at least 5 kPa (0.73 psia) below ambient pressure.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ______________)

Section 211.6930 Valves Not Externally Regulated

"Valves not externally regulated" means valves that have no provision for external adjustment or governance during their operation, such as in-line check valves.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.6950 Vapor Balance System

"Vapor balance system" means any combination of pipes or hoses which creates a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.6970 Vapor Collection System

"Vapor collection system" means all piping, seals, hoses, connections, pressure-vacuum vents, and other components between the gasoline delivery vessel and the vapor processing unit and/or the storage tanks and vapor holder.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.6990 Vapor Control System

"Vapor control system" means any system that limits or prevents release to the atmosphere of organic material in the vapors displaced from a tank during the transfer of gasoline or other volatile organic liquid.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.7010 Vapor-Mounted Primary Seal

"Vapor-mounted primary seal" means a primary seal mounted with an air space bounded by the bottom of the primary seal, the tank wall, the liquid surface and the floating roof.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.7030 Vapor Recovery System

"Vapor recovery system" means, with respect to a storage tank, storing a volatile organic liquid, a vapor gathering system capable of collecting all volatile organic material (VOM) vapors and gases discharged from the storage tank and a vapor disposal system capable of processing such VOM vapors and gases so as to prevent their emission to the atmosphere.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.7070 Vinyl Coating

"Vinyl coating" means any protective, decorative or functional coating or ink applied to vinyl or urethane or vinyl or urethane coated fabric which is delivered to a coating line or printing line as a roll, unwound and coated as a continuous substrate. However, a plastisol is not a vinyl coating.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.7090 Vinyl Coating Line

"Vinyl coating line" means a coating line in which any protective, decorative or functional coating or ink is applied onto vinyl or urethane or vinyl or urethane coated fabric which is delivered to a coating line or printing line as a roll, unwound and coated as a continuous substrate. However, application of a plastisol to vinyl or urethane or vinyl or urethane coated fabric is not a vinyl coating line or part of a vinyl coating line.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.7110 Volatile Organic Liquid (VOL)

"Volatile organic liquid (VOL)" means any substance which is liquid at storage conditions and which contains volatile organic material.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.7130 Volatile Organic Material Content (VOMC)

"Volatile organic material content (VOMC)" means, for the purpose of 35 Ill. Adm. Code 215, the emissions of volatile organic material which would result from the exposure of a coating, printing ink, fountain solution, tire spray, dry cleaning waste or other similar material to the air, including any drying or curing, in the absence of any control equipment. VOMC is typically expressed as kilogram (kg) VOM/liter (lb VOM/gallon) of coating or coating solids, or kg VOM/kg (lb VOM/lb) of coating solids, coating or material.

(Source: Added at ___ Ill. Reg. _____, effective ________________ ____________)

Section 211.7150 Volatile Organic Material (VOM) or Volatile Organic Compound (VOC)

"Volatile organic material (VOM)" or "Volatile organic compound (VOC)" 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.

a) This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity: Methane; ethane; methylene chloride (dichlormethane), 1,1,1-trichlorethane (methyl chloroform); 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (CFC-22); trifluoromethane (FC-23); 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114); cloropentafluoroethane (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-difluroethane (HFC-152a); and perfluorocarbon compounds which fall into these classes:

1) Cyclic, branched, or linear, completely fluorinated alkanes;

2) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

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

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

b) For purposes of determining VOM emissions and compliance with emissions limits, VOM will be measured by the test methods in the approved implementation plan or 40 CFR Part 60, Appendix A, incorporated by reference at 35 Ill. Adm. Code 215.105, 218.112, and 219.112, as applicable or by source-specific test methods which have been established pursuant to a permit issued pursuant to a program approved or promulgated under Title V of the Clean Air Act or under 40 CFR Part 51, Subpart I or Appendix S, incorporated by reference at 35 Ill. Adm. Code 218.112 and 219.112 or under 40 CFR Part 52.21, incorporated by reference at 35 Ill. Adm. Code 218.112 and 219.112, as applicable. Where such a method also measures compounds with negligible photochemical reactivity, these negligibly-reactive compounds may be excluded as VOM if the amount of such compounds is accurately quantified, and such exclusions is approved by the Agency.

c) As a precondition to excluding these negligibly-reactive compounds as VOM or at any time thereafter, the Agency may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the Agency, the amount of negligibly-reactive compounds in the source's emissions.

d) The USEPA shall not be bound by any State determination as to appropriate methods for testing or monitoring negligibly-reactive compounds if such determination is not reflected in any of the test methods in subsection (b) above.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.7170 Volatile Petroleum Liquid

"Volatile petroleum liquid" means any petroleum liquid with a true vapor pressure that is greater than 1.5 psia (78 millimeters of mercury) at standard conditions.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.7190 Wash Coat

"Wash coat" means a coating containing binders which seals wood surfaces, prevents undesired staining, and controls penetration.

(Source: Added at ___ Ill. Reg. _____, effective _______________ _____________)

Section 211.7210 Wastewater (Oil/Water) Separator

"Wastewater (oil/water) separator" means any device or piece of equipment which utilizes the difference in density between oil and water to remove oil and associated chemicals from water, or any device, such as a flocculation tank or a clarifier, which removes petroleum derived compounds from waste water.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.7230 Weak Nitric Acid Manufacturing Process

"Weak nitric acid manufacturing process" means any acid producing facility manufacturing nitric acid with a concentration of less than 70 percent by weight.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.7250 Web

"Web" means a substrate which is coated or printed as a continuous substrate after being unrolled from the roll in which the substrate is delivered to a line.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.7270 Wholesale Purchase - Consumer

"Wholesale purchase - consumer" means any person or organization that purchases or obtains gasoline from a supplier for ultimate consumption or use in motor vehicles and receives delivery of gasoline into a storage tank with a capacity of at least 2082 liters (550 gallons) owned and controlled by that person.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.7290 Wood Furniture

"Wood furniture" means room furnishings including cabinets (kitchen, bath, and vanity), tables, chairs, beds, sofas, shutters, art objects, wood paneling, wood flooring, and any other coated furnishings made of wood, wood composition, or fabricated wood materials.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.7310 Wood Furniture Coating

"Wood furniture coating" means any protective, decorative or functional coating applied to wood furniture or wood furniture parts.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

Section 211.7330 Wood Furniture Coating Line

"Wood furniture coating line" means a coating line in which any protective, decorative, or functional coating is applied to wood furniture or wood furniture parts.

(Source: Amended at ___ Ill. Reg. ______, effective _____________
__________)

Section 211.7350 Woodworking

"Woodworking" means the shaping, sawing, grinding, smoothing, polishing and making into products of any form or shape of wood.

(Source: Added at ___ Ill. Reg. _____, effective ________________
____________)

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE B: AIR POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER c: EMISSIONS STANDARDS AND LIMITATIONS
FOR STATIONARY SOURCES

PART 218
ORGANIC MATERIAL EMISSION STANDARDS AND LIMITATIONS FOR THE CHICAGO AREA

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SUBPART B: ORGANIC EMISSIONS FROM STORAGE AND LOADING OPERATIONS

SUBPART C: ORGANIC EMISSIONS FROM MISCELLANEOUS EQUIPMENT

SUBPART E: SOLVENT CLEANING

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SUBPART G: USE OF ORGANIC MATERIAL

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SUBPART UU: RECORDKEEPING AND REPORTING ~~FOR NON-CTG SOURCES~~

AUTHORITY: Implementing Section 10 and authorized by Section 28.5 of the Environmental Protection Act (Ill. Rev. Stat. 1991, ch. 111½, par. 1010), (P.A. 87-1213, effective September 26, 1992) [415 ILCS 5/10 and 28.5].

SOURCE: Adopted at R91-7 at 15 Ill. Reg. 12231, effective August 16, 1991; amended in R91-23 at 16 Ill. Reg. 13564, effective August 24, 1992; amended in R91-28 and R91-30 at 16 Ill. Reg. 13864, effective August 24, 1992; amended in R93-___ at 17 Ill. Reg. ___, effective ________________________.

SUBPART A: GENERAL PROVISIONS

Section 218.100 Introduction

a) This Part contains standards and limitations for emissions of organic material and volatile organic material from stationary sources located in the Chicago area, which is comprised of Cook, DuPage, Kane, Lake, McHenry and Will Counties and Aux Sable Township and Goose Lake Township in Grundy County and Oswego Township in Kendall County.

b) Sources subject to this Part may be subject to the following:

1) Permits required under 35 Ill. Adm. Code 201~~;~~ and

2) Air quality standards under 35 Ill. Adm. Code 243~~;~~.

c) This Part is divided into Subparts which are grouped as follows:

1) Subpart A: General Provisions;

2) Subparts B-F: Emissions from equipment and operations in common to more than one industry;

3) Subpart G: Emissions from use of organic material;

4) Subparts H-~~and~~ RR: ~~Special r~~Rules for various industry groups.

5) Subpart TT: Rules for emission units not otherwise addressed.

6) Subpart UU: Recordkeeping and reporting for equipment and operations addressed by Subparts PP, QQ, RR, and TT.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.101 ~~Cleanup and Disposal Operation~~Savings Clause

~~Emission of organic material released during clean-up operations and disposal shall be included with other emissions of organic material from the related emission source or air pollution control equipment in determining total emissions.~~

a) Every owner or operator of an emission unit formerly subject to 35 Ill. Adm. Code Part 215 shall have complied with its standards and limitations by the dates and schedules applicable to the emission unit in accordance with 35 Ill. Adm. Code 215 or upon initial start-up. All compliance dates or schedules found in 35 Ill. Adm. Code 215 are not superseded by this Part and remain in full force and effect.

b) Nothing in this Part shall affect the responsibility of any owner or operator that is now or has been subject to the FIP to comply with its requirements thereunder by the dates specified in the FIP.

(Source: Section repealed, new Section adopted at _____ Ill. Reg. _______, effective ________________________________)

Section 218.102 Abbreviations and Conversion Factors

~~a) The following abbreviations are used in this Part:~~

~~ASTM~~	~~American Society for Testing and Materials~~
~~bbl~~	~~barrels (42 gallons)~~
~~°C~~	~~degrees Celsius or centigrade~~
~~cm~~	~~centimeters~~
~~cu in~~	~~cubic inches~~
~~°F~~	~~degrees Fahrenheit~~
~~FIP~~	~~Federal Implementation Plan~~
~~ft~~	~~feet~~
~~ft^2~~	~~square feet~~
~~g~~	~~grams~~
~~gpm~~	~~gallons per minute~~
~~g/mole~~	~~grams per mole~~
~~gal~~	~~gallons~~
~~hr~~	~~hours~~
~~in~~	~~inches~~
~~°K~~	~~degrees Kelvin~~
~~kcal~~	~~kilocalories~~
~~kg~~	~~kilograms~~
~~kg/hr~~	~~kilograms per hour~~
~~kPa~~	~~kilopascals; one thousand newtons per square meter~~
~~l~~	~~liters~~
~~l/sec~~	~~liters per second~~
~~lbs~~	~~pounds~~
~~lbs/hr~~	~~pounds per hour~~
~~lbs/gal~~	~~pounds per gallon~~
~~LEL~~	~~lower explosive limit~~
~~m~~	~~meters~~
~~m^2~~	~~square meters~~
~~m^3~~	~~cubic meters~~
~~mg~~	~~milligrams~~
~~Mg~~	~~Megagrams, metric tons or tonnes~~
~~ml~~	~~milliliters~~
~~min~~	~~minutes~~
~~MJ~~	~~megajoules~~
~~mm Hg~~	~~millimeters of mercury~~
~~NDO~~	~~natural draft opening~~
~~ppm~~	~~parts per million~~
~~ppmv~~	~~parts per million by volume~~
~~psi~~	~~pounds per square inch~~
~~psia~~	~~pounds per square inch absolute~~
~~psig~~	~~pounds per square inch gauge~~
~~scf~~	~~standard cubic feet~~
~~scm~~	~~standard cubic meters~~
~~sec~~	~~seconds~~
~~SIP~~	~~State Implementation Plan~~
~~TTE~~	~~temporary total enclosure~~
~~sq cm~~	~~square centimeters~~
~~sq in~~	~~square inches~~
~~T~~	~~English ton~~
~~ton~~	~~English ton~~

~~USEPA~~	~~United States Environmental Protection Agency~~
~~VOC~~	~~volatile organic compounds~~
~~VOL~~	~~volatile organic liquids~~
~~VOM~~	~~volatile organic materials~~

~~b) The following conversion factors are used in this Part.~~

~~English~~	~~Metric~~
~~1 gal~~	~~3.785 l~~
~~1,000 gal~~	~~3,785 l or 3.785 m^3~~
~~1 psia~~	~~6.897 kPa (51.71 mm Hg)~~
~~2.205 lbs~~	~~1 kg~~
~~1 bbl~~	~~159.0 l~~
~~1 cu in~~	~~16.39 ml~~
~~1 lb/gal~~	~~119,800 mg/l~~
~~1 ton~~	~~0.907 Mg~~
~~1 T~~	~~0.907 Mg~~

The abbreviations and conversion factors of 35 Ill. Adm. Code 211 apply to this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.103 Applicability

The provisions of this Part shall apply to all sources located in the Chicago area, which is composed of Cook, DuPage, Kane, Lake, McHenry ~~or~~ and Will Counties, ~~or~~ and Aux Sable Township ~~or~~ and Goose Lake Township in Grundy County ~~or~~ and Oswego Township in Kendall County.

a) The provisions of this Part shall become effective on July 1, 1991 with the following exceptions:

1) The provisions of this Part shall become effective on September 1, 1991 for each appellant, including the constituents represented by appellants who are associations, who has appealed the federal implementation plan (FIP) for the Chicago area (Illinois Environmental Regulatory Group v. USEPA, No. 90-2778 (and consolidated cases) (7th Cir.)).

2) ~~The effectiveness of any provision of this Part applicable to any individual source or category of sources which has appealed the FIP shall be stayed to the extend that such individual source or category of sources received a stay of the effectiveness of the FIP from USEPA or from a~~

~~court. When the court has taken final action or when USEPA has published in the Federal Register final action to revise or affirm the provisions of the FIP specifically applicable to such individual source or category of sources or such stay is terminated, the Board shall take corresponding action, if necessary, by the adoption of a peremptory rule pursuant to 35 Ill. Adm. Code 102.347 and Section 5.03 of the Administrative Procedure Act (Ill. Rev. Stat. 1989, ch. 127, ch. 1005.03).~~The effectiveness of any provision of this Part applicable to any individual source or category of sources which has appealed the FIP shall be stayed to the extent that such individual source or category of sources received a stay of the effectiveness of the FIP, pending reconsideration, from the USEPA or from the court in the FIP appeal cited in subsection 218.103(a)(1) above. When USEPA has published in the Federal Register final action to revise or affirm the provisions of the FIP specifically applicable to such individual source or category of sources or such stay is otherwise terminated, the Board shall take corresponding action and the Agency shall submit such action to USEPA for approval. Until such time as USEPA approves the corresponding amendment to this Part, the FIP rule shall remain the applicable implementation plan for that source or category of sources under the Clean Air Act.

3) The provisions of this Part shall become effective on November 15, 1992 for all sources located in Aux Sable Township or Goose Lake Township in Grundy County or in Oswego Township in Kendall County.

b) The provisions of the Part shall not apply to Viskase Corporation; Allsteel, Incorporated; Stepan Company; or Ford Motor Company to the extent such source has obtained an adjusted standard from the Board or an exclusion from the General Assembly for any Subpart of this Part or of 35 Ill. Adm. Code 215.

(Board Note: Subsection 218.103(b) of this Section shall be effective at the federal level only upon approval by USEPA.)

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.104 Definitions

~~The following terms are defined for the purpose of this Part.~~

~~"Accelacota" means a pharmaceutical coating operation which consists of a horizontally rotating perforated drum in which tablets are placed, a coating is applied by spraying, and the coating is dried by the flow of air across the drum through the perforations.~~

~~"Accumulator" means the reservoir of a condensing unit receiving the condensate from a surface condenser.~~

~~"Acid Gases" means for the purposes of Section 9.4 of the Environmental Protection Act (the Act) (Ill. Rev. Stat. 1987, ch. 111 1/2, par. 1009.4), hydrogen chloride, hydrogen fluoride and hydrogen bromide, which exist as gases, liquid mist, or any combination thereof.~~

~~"Actual emissions" means the actual quantity of VOM emissions from an emission source during a particular time period.~~

~~"Actual Heat Input" means the quantity of heat produced by the combustion of fuel using the gross heating value of the fuel.~~

~~"Adhesive" means any substance or mixture of substances intended to serve as a joining compound.~~

~~"Afterburner" means a control device in which materials in gaseous effluent are combusted.~~

~~"Air contaminant" means any solid, liquid, or gaseous matter, any odor, or any form of energy, that is capable of being released into the atmosphere from an emission source.~~

~~"Air dried coatings" means any coatings that dry by use of air or forced air at temperatures up to 363.15°K (194°F).~~

~~"Air pollution" means the presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.~~

~~"Air pollution control equipment" means any equipment or facility of a type intended to eliminate, prevent, reduce or control the emission of specified air contaminants to the atmosphere.~~

~~"Air suspension coater/dryer" means a pharmaceutical coating operation which consists of vertical chambers in which tablets or particles are placed, and a coating is applied and then dried while the tablets or particles are kept in a fluidized state by the passage of air upward through the chambers.~~

~~"Airless spray" means a spray coating method in which the coating is atomized by forcing it through a small opening at high pressure. The coating liquid is not mixed with air before exiting from the nozzle.~~

~~"Air-assisted airless spray" means a spray coating method which combines compressed air with hydraulic pressure to atomize the coating material into finer droplets than is achieved with pure airless spray. Lower hydraulic pressure is used than with airless spray.~~

~~"Allowable emissions" means the quantity of VOM emissions during a particular time period from a stationary source calculated using the maximum rated capacity of the source (unless restricted by federally enforceable limitations on operating rate, hours of operation, or both) and the most stringent of: the applicable standards in 40 CFR Parts 60 and 61; the applicable implementation plan; or a federally enforceable permit.~~

~~"Ambient air quality standards" means those standards designed to protect the public health and welfare codified in 40 CFR Part 50 and promulgated from time to time by the USEPA pursuant to authority contained in Section 108 of the Clean Air Act, 42 U.S.C. 7401 et seq., as amended from time to time.~~

~~"Applicator" means a device used in a coating line to apply coating.~~

~~"As applied" means the exact formulation of a coating during application on or impregnation into a substrate.~~

~~"Architectural Coating" means any coating used for residential or commercial buildings or their appurtenances, or for industrial buildings, which is site applied.~~

~~"Asphalt" means the dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens which occur naturally or as a residue of petroleum refining.~~

~~"Asphalt Prime Coat" means a low-viscosity liquid asphalt applied to an absorbent surface as the first of more than one asphalt coat.~~

~~"Automobile" means a motor vehicle capable of carrying no more than 12 passengers.~~

~~"Automobile or light-duty truck assembly plant" means a facility where parts are assembled or finished for eventual inclusion into a finished automobile or light-duty truck ready for sale to vehicle dealers, but not including customizers, body shops, and other repainters.~~

~~"Automobile or light-duty truck refinishing" means the repainting of used automobiles and light-duty trucks.~~

~~"Baked coatings" means any coating which is cured or dried in an oven where the oven air temperature exceeds 90°C (194°F).~~

~~"Batch Loading" means the process of loading a number of individual parts at the same time for degreasing.~~

~~"Bead-Dipping" means the dipping of an assembled tire bead into a solvent-based cement.~~

~~"Binders" means organic materials and resins which do not contain VOM.~~

~~"Bituminous coatings" means black or brownish coating materials which are soluble in carbon disulfide, which consist mainly of hydrocarbons, and which are obtained from natural deposits or as residues from the distillation of crude oils or of low grades of coal.~~

~~"British Thermal Unit" means the quantity of heat required to raise one pound of water from 60°F to 61°F (abbreviated btu).~~

~~"Brush or wipe coating" means a manual method of applying a coating using a brush, cloth, or similar object.~~

~~"Bulk gasoline plant" means a gasoline storage and distribution facility with an average throughput of 76,000 l (20,000 gal) or less on a 30-day rolling average that distributes gasoline to gasoline dispensing facilities.~~

~~"Bulk Gasoline Terminal" means any gasoline storage and~~

~~distribution facility that receives gasoline by pipeline, ship or barge, and distributes gasoline to bulk gasoline plants or gasoline dispensing facilities.~~

~~"Can" means any metal container, with or without a top, cover, spout or handles, into which solid or liquid materials are packaged.~~

~~"Can coating" means any coating applied on a single walled container that is manufactured from metal sheets thinner than 29 gauge (0.0141 in.).~~

~~"Can coating " means a facility that includes one or more can coating line(s).~~

~~"Can coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of cans or can components.~~

~~"Capture" means the containment or recovery of emissions from a process for direction into a duct which may be exhausted through a stack or vent to a control device. The overall abatement of emissions from a process with an add-on control device is a function both of the capture efficiency and of the control device.~~

~~"Capture device" means a hood, enclosed room floor sweep or other means of collecting solvent or other pollutants into a duct. The pollutant can then be directed to a pollution control device such as an afterburner or carbon adsorber. Sometimes the term is used loosely to include the control device.~~

~~"Capture efficiency" means the fraction of all VOM generated by a process that are directed to an abatement or recovery device.~~

~~"Capture system" means all equipment (including, but not limited to, hoods, ducts, fans, ovens, dryers, etc.) used to contain, collect and transport an air pollutant to a control device.~~

~~"Clean Air Act" means the Clean Air Act of 1963, as amended, including the Clean Air Act Amendments of 1977, (42 U.S.C. 7401 et seq.), and the Clean Air Act Amendments of 1990, (P.L. 101-549).~~

~~"Clear coating" means coatings that lack color and opacity or are transparent using the undercoat as a reflectant base or undertone color.~~

~~"Clear topcoat" means the final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.~~

~~"Closed Purge System" means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow inducing devices that transport liquid or vapor from a piece or pieces of equipment to a control device, or return the liquid or vapor to the process line.~~

~~"Closed vent system" means a system that is not open to the atmosphere and is composed of piping, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission source to a control device.~~

~~"Coating" means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes,sealers, adhesives, thinners, diluents, and inks.~~

~~"Coating applicator" means equipment used to apply a coating.~~

~~"Coating line" means an operation consisting of a series of one or more coating applicators and any associated flash-off areas, drying areas, and ovens wherein a surface coating is applied, dried, or cured. (It is not necessary for an operation to have an oven, or flash-off area, or drying area to be included in this definition.)~~

~~"Coating plant" means any plant that contains one or more coating line(s).~~

~~"Coil" means any flat metal sheet or strip that is rolled or wound in concentric rings.~~

~~"Coil coating" means any coating applied on any flat metal sheet or strip that comes in rolls or coils.~~

~~"Coil coating facility" means a facility that includes one or more coil coating line(s).~~

~~"Coil coating line" means a coating line in which any protective, decorative or functional coating is applied onto the surface of flat metal sheets, strips, rolls, or coils for industrial or commercial use.~~

~~"Cold cleaning" means the process of cleaning and removing soils from surfaces by spraying, brushing, flushing, or immersion while maintaining the organic solvent below its boiling point. Wipe cleaning is not included in this definition.~~

~~"Complete Combustion" means a process in which all carbon contained in a fuel or gas stream is converted to carbon dioxide.~~

~~"Component" means, with respect to synthetic organic chemical and polymer manufacturing equipment, and petroleum refining and related industries, any piece of equipment which has the potential to leak VOM including, but not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains, and open ended pipes. This definition excludes valves which are not externally regulated, flanges, and equipment in heavy liquid service. For purposes of Subpart Q of this Part, this definition also excludes bleed ports of gear pumps in polymer service.~~

~~"Concrete curing compounds" means any coating applied to freshly poured concrete to retard the evaporation of water.~~

~~"Condensate" means volatile organic liquid separated from its associated gases, which condenses due to changes in the temperature or pressure and remains liquid at standard conditions.~~

~~"Continuous process" means, with respect to polystyrene resin, a method of manufacture in which the styrene raw material is delivered on a continuous basis to the reactor in which the styrene is polymerized to polystyrene.~~

~~"Control device" means equipment (such as an afterburner or adsorber) used to remove or prevent the emission of air pollutants from a contaminated exhaust stream.~~

~~"Control device efficiency" means the ratio of the pollution prevented by a control device and the pollution introduced to the control device, expressed as a percentage.~~

~~"Conveyorized degreasing" means the continuous process of cleaning and removing soils from surfaces utilizing either cold or vaporized solvents.~~

~~"Crude oil" means a naturally occurring mixture which consists of hydrocarbons and sulfur, nitrogen, or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.~~

~~"Crude oil gathering" means the transportation of crude oil or condensate after custody transfer between a production facility and a reception point.~~

~~"Custody transfer" means the transfer of produced petroleum and/or condensate after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.~~

~~"Cutback Asphalt" means any asphalt which has been liquified by blending with petroleum solvents other than residual fuel oil and has not been emulsified with water.~~

~~"Daily-weighted average VOM content" means the average VOM content of two or more coatings as applied on a coating line during any day, taking into account the fraction of total coating volume that each coating represents, as calculated with the following equation:~~

$$\cancel{VOM_W = [\sum_{i=1}^{n} V_i \quad C_i \quad]/V_T}$$

~~where:~~

~~VOM_W = The average VOM content of two or more coatings as applied each day on a coating line in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM),~~

~~n = The number of different coatings as applied each day on a coating line,~~

~~V_i = The volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on a coating line in units of l (gal).~~

~~C_i = The VOM content of each coating as applied each day on a coating line in~~

~~units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM), and~~

~~V_T = The total volume of all coatings (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on a coating line in units of l (gal).~~

~~"Day" means the consecutive 24 hours beginning at 12:00 AM (midnight) local time.~~

~~"Degreaser" means any equipment or system used in solvent cleaning.~~

~~"Delivery vessel" means any tank truck or trailer equipped with a storage tank that is used for the transport of gasoline to a stationary storage tank at a gasoline dispensing facility, bulk gasoline plant, or bulk gasoline terminal.~~

~~"Dip coating" means a method of applying coatings in which the part is submerged in a tank filled with the coating.~~

~~"Distillate Fuel Oil" means fuel oils of grade No. 1 or 2 as specified in detailed requirements for fuel oil ASTM D-369-69 (1971).~~

~~"Dry Cleaning Facility" means a facility engaged in the cleaning of fabrics using an essentially nonaqueous solvent by means of one or more solvent washes, extraction of excess solvent by spinning and drying by tumbling in an airstream. The facility includes, but is not limited to, washers, dryers, filter and purification systems, waste disposal systems, holding tanks, pumps and attendant piping and valves.~~

~~"Effluent Water Separator" means any tank, box, sump or other apparatus in which any organic material floating on or entrained or contained in water entering such tank, box, sump or other apparatus is physically separated and removed from such water prior to outfall, drainage or recovery of such water.~~

~~"Electrostatic bell or disc spray" means an electrostatic spray coating method in which a rapidly-spinning bell- or disc-shaped applicator is~~

~~used to create a fine mist and apply the coating with high transfer efficiency.~~

~~"Electrostatic spray" means a spray coating method in which opposite electrical charges are applied to the substrate and the coating. The coating is attracted to the object due to the electrostatic potential between them.~~

~~"Emission Rate" means total quantity of any air contaminant discharge into the atmosphere in any one-hour period.~~

~~"Emission source" and "source" mean any facility from which VOM is emitted or capable of being emitted into the atmosphere.~~

~~"Enamel" means a coating that cures by chemical cross-linking of its base resin. Enamels can be distinguished from lacquers because enamels are not readily resoluble in their original solvent.~~

~~"Enclose" means to cover any VOL surface that is exposed to the atmosphere.~~

~~"End sealing compound coat" means a compound applied to can ends which functions as a gasket when the end is assembled onto the can.~~

~~"Excess Air" means air supplied in addition to the theoretical quantity necessary for complete combustion of all fuel and/or combustible waste material.~~

~~"Excessive release" means a discharge of more than 295 g (0.65 lbs) of mercaptans and/or hydrogen sulfide into the atmosphere in any 5-minute period.~~

~~"Exterior base coat" means a coating applied to the exterior of a can body, or flat sheet to provide protection to the metal or to provide background for any lithographic or printing operation.~~

~~"Exterior end coat" means a coating applied to the exterior end of a can to provide protection to the metal.~~

~~"External floating roof" means a cover over an open top storage tank consisting of a double deck or pontoon single deck which rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.~~

~~"Extreme environmental conditions" means exposure to any or all of the following: ambient weather conditions; temperatures consistently above 95°C (203°F); detergents; abrasive and scouring agents; solvents; or corrosive atmospheres.~~

~~"Extreme performance coating" means any coating which during intended use is exposed to extreme environmental conditions.~~

~~"Fabric coating" means any coating applied on textile fabric. Fabric coating includes the application of coatings by impregnation.~~

~~"Fabric coating facility" means a facility that includes one or more fabric coating lines.~~

~~"Fabric coating line" means a coating line in which any protective, decorative, or functional coating or reinforcing material is applied on or impregnated into a textile fabric.~~

~~"Federally enforceable" means all limitations and conditions which are enforceable by the Administrator including those requirements developed pursuant to 40 CFR Parts 60 and 61; requirements within any applicable implementation plan; and any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51 Subpart I and 40 CFR 51.166.~~

~~"Final repair coat" means the repainting of any topcoat which is damaged during vehicle assembly.~~

~~"Firebox" means the chamber or compartment of a boiler or furnace in which materials are burned, but not the combustion chamber or afterburner of an incinerator.~~

~~"Fixed-roof tank" means a cylindrical shell with a permanently affixed roof.~~

~~"Flexographic printing" means the application of words, designs, and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of elastomeric materials.~~

~~"Flexographic printing line" means a printing line in which each roll printer uses a roll with raised areas for applying an image such as words, designs, or pictures to a substrate. The image carrier on the roll is made of rubber or other elastomeric material.~~

~~"Floating roof" means a roof on a stationary tank, reservoir, or other container which moves vertically upon change in volume of the stored material.~~

~~"Fountain solution" means the solution which is applied to the image plate to maintain hydrophilic properties of the non-image areas.~~

~~"Freeboard Height" means for open top vapor degreasers, the distance from the top of the vapor zone to the top of the degreaser tank. For cold cleaning degreasers, the distance from the solvent to the top of the degreaser tank.~~

~~"Fuel combustion emission source" means any furnace, boiler, or similar equipment used for the primary purpose of producing heat or power by indirect heat transfer.~~

~~"Fuel gas system" means a system for collection of refinery fuel gas including, but not limited to, piping for collecting tail gas from various process units, mixing drums and controls, and distribution piping.~~

~~"Gas service" means that the component contains process fluid that is in the gaseous state at operating conditions.~~

~~"Gas/gas method" means either of two methods for determining capture which rely only on gas phase measurements. The first method requires construction of a temporary total enclosure (TTE) to ensure that all would-be fugitive emissions are measured. The second method uses the building or room which houses the facility as an enclosure. The second method requires that all other VOM sources within the room be shut down while the test is performed, but all fans and blowers within the room must be operated according to normal procedures.~~

~~"Gasoline" means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kPa or greater which is used as a fuel for internal combustion engines.~~

~~"Gasoline dispensing facility" means any site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline tank used to provide fuel to the engine of that motor vehicle.~~

~~"Green Tire Spraying" means the spraying of green tires, both inside and outside, with release compounds~~

~~which help remove air from the tire during molding and prevent the tire from sticking to the mold after curing.~~

~~"Green Tires" means assembled tires before molding and curing have occurred.~~

~~"Gross vehicle weight" means the manufacturer's gross weight rating for the individual vehicle.~~

~~"Gross vehicle weight rating" means the value specified by the manufacturer as the maximum design loaded weight of a single vehicle.~~

~~"Heated airless spray" means an airless spray coating method in which the coating is heated just prior to application.~~

~~"Heatset" means a class of web-offset lithography which requires a heated dryer to solidify the printing inks.~~

~~"Heatset-web-offset lithographic printing line" means a lithographic printing line in which a blanket cylinder is used to transfer ink from a plate cylinder to a substrate continuously fed from a roll or an extension process and an oven is used to solidify the printing inks.~~

~~"Heavy liquid" means liquid with a true vapor pressure of less than 0.3 kPa (0.04 psi) at 294.3°K (70°F) established in a standard reference text or as determined by ASTM method D2879-86 (incorporated by reference in Section 218.112); or which has 0.1 Reid Vapor Pressure as determined by ASTM method D323-82 (incorporated by reference in Section 218.112); or which when distilled requires a temperature of 421.95°K (300°F) or greater to recover 10 percent of the liquid as determined by ASTM method D86-82 (incorporated by reference in Section 218.112).~~

~~"Heavy off-highway vehicle products" means, for the purpose of Subpart F of this Part, heavy construction, mining, farming, or material handling equipment; heavy industrial engines; diesel-electric locomotives and associated power equipment; and the components of such equipment or engines.~~

~~"Heavy off-highway vehicle products coating facility" means a facility that includes one or more heavy off-highway vehicle products coating line(s).~~

~~"Heavy off-highway vehicle products coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of heavy off-highway vehicle products.~~

~~"High temperature aluminum coating" means a coating that is certified to withstand a temperature of 537.8°C (1000°F) for 24 hours.~~

~~"Hood" means a partial enclosure or canopy for capturing and exhausting, by means of a draft, the organic vapors or other fumes rising from a coating process or other source.~~

~~"Hood capture efficiency" means the emissions from a process which are captured by the hood and directed into a control device, expressed as a percentage of all emissions.~~

~~"Hot well" means the reservoir of a condensing unit receiving the condensate from a barometric condenser.~~

~~"Hour" means a block period of 60 minutes (e.g., 1:00am to 2:00am).~~

~~"In-process tank" means a container used for mixing, blending, heating, reacting, holding, crystallizing, evaporating or cleaning operations in the manufacture of pharmaceuticals.~~

~~"In-situ Sampling Systems" means nonextractive samplers or in-line samplers.~~

~~"In vacuum service" means, for the purpose of Subpart Q of this Part, equipment which is operating at an internal pressure that is at least 5 kPa (0.73 psia) below ambient pressure.~~

~~"Incinerator" means a combustion apparatus in which refuse is burned.~~

~~"Indirect heat transfer" means transfer of heat in such a way that the source of heat does not come into direct contact with process materials.~~

~~"Ink" means a coating used in printing, impressing, or transferring an image onto a substrate.~~

~~"Interior body spray coat" means a coating applied by spray to the interior of a can body.~~

~~"Internal-floating roof" means a cover or roof in a fixed-roof tank which rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.~~

~~"Lacquers" means any clear wood finishes formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction, including clear lacquer sanding sealers.~~

~~"Large appliance" means any residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, and other similar products.~~

~~"Large appliance coating" means any coating applied to the component metal parts (including, but not limited to, doors, cases, lids, panels, and interior support parts) of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, and other similar products.~~

~~"Large appliance coating facility" means a facility that includes one or more large appliance coating line(s).~~

~~"Large appliance coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of large appliances.~~

~~"Light liquid" means VOM in the liquid state which is not defined as heavy liquid.~~

~~"Light-duty truck" means any motor vehicle rated at 3,850 kg gross vehicle weight or less, designed mainly to transport property.~~

~~"Liquid/gas method" means either of two methods for determining capture which require both gas phase and liquid phase measurements and analysis. The first method requires construction of a TTE. The second method uses the building or room which houses the facility as an enclosure. The second method requires that all other VOM sources within the room be shut dowr while the test is performed, but all fans and blowers within the room must be operated according to normal procedures.~~

~~"Liquid-Mounted Seal" means a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof edge around the circumference of the roof.~~

~~"Liquid service" means that the equipment or component contains process fluid that is in a liquid state at operating conditions.~~

~~"Liquids Dripping" means any visible leaking from a seal including spraying, misting, clouding and ice formation.~~

~~"Lithographic printing line" means a printing line, except that the substrate is not necessarily fed from an unwinding roll, in which each roll printer uses a roll where both the image and non-image areas are essentially in the same plane (planographic).~~

~~"Low Solvent Coating" means a coating which contains less organic solvent than the conventional coatings used by the industry. Low solvent coatings include water-borne, higher solids, electro-deposition and powder coatings.~~

~~"Magnet wire" means aluminum or copper wire formed into an electromagnetic coil.~~

~~"Magnet wire coating" means any coating or electrically insulating varnish or enamel applied to magnet wire.~~

~~"Magnet wire coating facility" means a facility that includes one or more magnet wire coating line(s).~~

~~"Magnet wire coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of a magnet wire.~~

~~"Malfunction" means any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.~~

~~"Manufacturing process" means a method whereby a process emission source or series of process emission sources is used to raw materials, feed stocks, subassemblies, or other components into a product, either for sale or for use as a component in a subsequent manufacturing process.~~

~~"Material Recovery Section" means any equipment designed to transport and recover styrene monomer and other impurities from other products and by-products in a polystyrene plant, including but not limited to the styrene devolatilizer unit and styrene recovery unit.~~

~~"Maximum theoretical emissions" means the quantity of volatile organic material emissions that theoretically could be emitted by a stationary source before add-on controls based on the design capacity or maximum production capacity of the source and 8760 hours per year. The design capacity or maximum production capacity includes use of coating(s) or ink(s) with the highest volatile organic material content actually used in practice by the source. Provided, however, the Agency shall, when appropriate, and upon request by the permit applicant, limit the "maximum theoretical emissions" of a source by the imposition of conditions in a federally enforceable operating permit for such source. Such conditions shall not be inconsistent with requirement of the Clean Air Act, as amended, or any applicable requirements established by the Board. Such conditions shall be established in place of design capacity or maximum production capacity in calculating the "maximum theoretical emissions" for such source and may include, among other things, the establishment of production limitations, capacity limitations, emission limitations, or limitations on the volatile organic material content of coatings or inks, or the hours of operation of any emission source, or a combination of any such limitations.~~

~~Production or capacity limitations shall be established on basis of no longer than one month except in those cases where a limit spanning a longer period of time is appropriate. In such cases, a rolling limit" shall be employed. Any production or capacity limitations shall be verified through appropriate recordkeeping. (Board Note: The USEPA may deem operating permits which do not conform to the operating permit program requirements and the requirements of USEPA's underlying regulations, including the requirement that limitations be quantifiable and enforceable as a practical matter, not "federally enforceable.")~~

~~"Metal furniture" means a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, lamps, and room dividers.~~

~~"Metal furniture coating" means any non-adhesive coating applied to any furniture piece made of metal or~~

~~any metal part which is or will be assembled with other metal, wood, fabric, plastic or glass parts to form a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, lamps, and room dividers. This definition shall not apply to any coating line coating miscellaneous metal parts or products.~~

~~"Metal furniture coating facility" means a facility that includes one or more metal furniture coating line(s).~~

~~"Metal furniture coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of metal furniture.~~

~~"Metallic shoe-type seal" means a primary or secondary seal constructed of metal sheets (shoes) which are joined together to form a ring, springs, or levers which attach the shoes to the floating roof and hold the shoes against the tank wall, and a coated fabric which is suspended from the shoes to the floating roof.~~

~~"Miscellaneous fabricated product manufacturing process" means:~~

~~A manufacturing process involving one or more of the following applications, including any drying and curing of formulations, and capable of emitting VOM:~~

~~Adhesives to fabricate or assemble components or products~~

~~Asphalt solutions to paper or fiberboard~~

~~Asphalt to paper or felt~~

~~Coatings or dye to leather~~

~~Coatings to plastic~~

~~Coatings to rubber or glass~~

~~Disinfectant material to manufactured items~~

~~Plastic foam scrap or "fluff" from the manufacture of foam containers and packaging material to form resin pallets~~

~~Resin solutions to fiber substances~~

~~Viscose solutions for food casings~~

~~The storage and handling of formulations associated with the process described above, and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition.~~

~~"Miscellaneous formulation manufacturing process" means:~~

~~A manufacturing process which compounds one or more of the following and is capable of emitting VOM:~~

~~Adhesives~~

~~Asphalt solutions~~

~~Caulks, sealants, or waterproofing agents~~

~~Coatings, other than paint and ink~~

~~Concrete curing compounds~~

~~Dyes~~

~~Friction materials and compounds~~

~~Resin solutions~~

~~Rubber solutions~~

~~Viscose solutions~~

~~The storage and handling of formulations associated with the process described above, and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition.~~

~~"Miscellaneous metal parts or products" means any metal part or metal product, even if attached to or combined with a nonmetal part or product, except cans, coils, metal furniture, large appliances, magnet wire, automobiles, ships, and airplane bodies.~~

~~"Miscellaneous metal parts and products coating" means any coating applied to any metal part or metal product, even if attached to or combined with a nonmetal part or product, except cans, coils, metal furniture, large appliances, and magnet wire. Prime coat, prime surfacer coat, topcoat, and final repair coat for automobiles and light-duty trucks are not miscellaneous metal parts and products coatings. However, underbody~~

~~anti-chip (e.g., underbody plastisol) automobile and light-duty truck coatings are miscellaneous metal parts and products coatings. Also, automobile or light-duty truck refinishing coatings, coatings applied to the exterior of marine vessels, coatings applied to the exterior of airplanes, and the customized topcoating of automobiles and trucks if production is less than 35 vehicles per day are not miscellaneous metal parts and products coatings.~~

~~"Miscellaneous metal parts or products coating facility" means a facility that includes one or more miscellaneous metal parts or products coating lines.~~

~~"Miscellaneous metal parts or products coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of miscellaneous metal parts or products.~~

~~"Miscellaneous organic chemical manufacturing process" means:~~

~~A manufacturing process which produces, by chemical reaction, one or more of the following organic compounds or mixtures of organic compounds and which is capable of emitting VOM:~~

~~Chemicals listed in Appendix A of this Part~~

~~Chlorinated and sulfonated compounds~~

~~Cosmetic, detergent, soap, or surfactant intermediaries or specialties and products~~

~~Disinfectants~~

~~Food additives~~

~~Oil and petroleum product additives~~

~~Plasticizers~~

~~Resins or polymers~~

~~Rubber additives~~

~~Sweeteners~~

~~Varnishes~~

~~The storage and handling of formulations associated with the process described above and the use and~~

~~handling of organic liquids and other substances for clean-up operations associated with the process described in this definition.~~

~~"Monitor" means to measure and record.~~

~~"Multiple package coating" means a coating made from more than one different ingredient which must be mixed prior to using and has a limited pot life due to the chemical reaction which occurs upon mixing.~~

~~"No Detectable Volatile Organic Material Emissions" means a discharge of volatile organic material into the atmosphere as indicated by an instrument reading of less than 500 ppm above background as determined in accordance with 40 CFR 60.485(c).~~

~~"Offset" means, with respect to printing and publishing operations, use of a blanket cylinder to transfer ink from the plate cylinder to the surface to be printed.~~

~~"Opaque stains" means all stains that are not semi-transparent stains.~~

~~"Open top vapor degreasing" means the batch process of cleaning and removing soils from surfaces by condensing hot solvent vapor on the colder metal parts.~~

~~"Open-ended valve" means any valve, except pressure relief devices, having one side of the valve in contact with process fluid and one side open to the atmosphere, either directly or through open piping.~~

~~"Operator of Gasoline Dispensing Facility" means any person who is the lessee of or operates, controls or supervises a gasoline dispensing facility.~~

~~"Organic compound" means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.~~

~~"Organic material" means any chemical compound of carbon including diluents and thinners which are liquids at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents, but excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbonic acid, metallic carbide, metallic carbonates, and ammonium carbonate.~~

~~"Organic vapor" means the gaseous phase of an organic material or a mixture of organic materials present in the atmosphere.~~

~~"Oven" means a chamber within which heat is used for one or more of the following purposes: dry, bake, cure, or polymerize a coating or ink.~~

~~"Overall control" means the product of the capture efficiency and the control device efficiency.~~

~~"Overvarnish" means a transparent coating applied directly over ink or coating.~~

~~"Owner of Gasoline Dispensing Facility" means any person who has legal or equitable title to a stationary storage tank at a gasoline dispensing facility.~~

~~"Owner or operator" means any person who owns, operates, leases, controls, or supervises an emission source or air pollution control equipment.~~

~~"Packaging rotogravure printing" means rotogravure printing upon paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operations, formed into packaging products or labels for articles to be sold.~~

~~"Packaging rotogravure printing line" means a rotogravure printing line in which surface coatings are applied to paper, paperboard, foil, film, or other substrates which are to be used to produce containers, packaging products, or labels for articles.~~

~~"Paint manufacturing plant" means a plant that mixes, blends, or compounds enamels, lacquers, sealers, shellacs, stains, varnishes, or pigmented surface coatings.~~

~~"Paper coating" means any coating applied on paper, plastic film, or metallic foil to make certain products, including (but not limited to) adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, or pressure sensitive tapes. Paper coating includes the application of coatings by impregnation and/or saturation.~~

~~"Paper coating facility" means a facility that includes one or more paper coating lines.~~

~~"Paper coating line" means a coating line in which any protective, decorative, or functional coating is~~

~~applied on, saturated into, or impregnated into paper, plastic film, or metallic foil to make certain products, including (but not limited to) adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, and pressure sensitive tapes.~~

~~"Parts per million (volume)" means a volume/volume ratio which expresses the volumetric concentration of gaseous air contaminant in a million unit volume of gas.~~

~~"Person" means any individual, corporation, partnership, association, State, municipality, political subdivision of a State; any agency, department, or instrumentality of the United States; and any officer, agent, or employee thereof.~~

~~"Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.~~

~~"Petroleum Liquid" means crude oil, condensate or any finished or intermediate product manufactured at a petroleum refinery, but not including Number 2 through Number 6 fuel oils as specified in ASTM D-396-69, gas turbine fuel oils Numbers 2-GT through 4-GT as specified in ASTM D-2880-71 or diesel fuel oils Numbers 2-D and 4-D, as specified in ASTM D-975-68.~~

~~"Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum, or through redistillation, cracking, or reforming of unfinished petroleum derivatives.~~

~~"Pharmaceutical" means any compound or mixture, other than food, used in the prevention, diagnosis, alleviation, treatment, or cure of disease in human and animal.~~

~~"Pharmaceutical coating operation" means a device in which a coating is applied to a pharmaceutical, including air drying or curing of the coating.~~

~~"Photochemically Reactive Material" means any organic material with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or the composition of which exceeds any of the following individual percentage composition limitations. Whenever any photochemically reactive material or any constituent of any organic material may be classified from its chemical structure into more~~

~~than one of the above groups of organic materials it shall be considered as a member of the most reactive group, that is, the group having the least allowable percent of the total organic materials.~~

~~A combination of hydrocarbons, alcohols, aldehydes, esters, ethers or ketones having an olefinic or cyclo-olefinic types of unsaturation: 5 percent. This definition does not apply to perchloroethylene or trichloroethylene.~~

~~A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.~~

~~A combination of ethylbenzene, ketones having branched hydrocarbon structures or toluene: 20 percent.~~

~~"Pigmented coatings" means opaque coatings containing binders and colored pigments which are formulated to conceal the wood surface either as an undercoat or topcoat.~~

~~"Plant" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control), except the activities of any marine vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group" (i.e., which have the same two-digit code) as described in the "Standard Industrial Classification Manual, 1987" (incorporated by reference in Section 218.112).~~

~~"Plasticizers" means a substance added to a polymer composition to soften and add flexibility to the product.~~

~~"Pneumatic Rubber Tire Manufacture" means the production of pneumatic rubber tires with a bead diameter up to but not including 20.0 inches and cross section dimension up to 12.8 inches, but not including specialty tires for antique or other vehicles when produced on equipment separate from normal production lines for passenger or truck type tires.~~

~~"Polystyrene Plant" means any plant using styrene to manufacture polystyrene resin.~~

~~"Polystyrene Resin" means substance consisting of styrene polymer and additives which is manufactured at a polystyrene plant.~~

~~"Pressure Release" means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.~~

~~"Pressure Tank" means a tank in which fluids are stored at a pressure greater than atmospheric pressure.~~

~~"Prime coat" means the first of two or more coatings applied to a surface.~~

~~"Prime surfacer coat" means a coating used to touch up areas on the surface of automobile or light-duty truck bodies not adequately covered by the prime coat before application of the top coat. The prime surfacer coat is applied between the prime coat and topcoat. An anti-chip coating applied to main body parts (e.g., rocker panels, bottom of doors and fenders, and leading edge of roof) is a prime surfacer coat.~~

~~"Primers" means any coatings formulated and applied to substrates to provide a firm bond between the substrate and subsequent coats.~~

~~"Printing" means the application of words, designs, and pictures to a substrate using ink.~~

~~"Printing line" means an operation consisting of a series of one or more roll printers and any associated roll coaters, drying areas, and ovens wherein one or more coatings are applied, dried, and/or cured.~~

~~"Process" means any stationary emission source other than a fuel combustion emission source or an incinerator.~~

~~"Process Unit" means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in 35 Ill. Adm. Code 218 Appendix A. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.~~

~~"Process Unit Shutdown" means a work practice or operationalprocedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit~~

~~shutdown. The use of spare components and technically feasible bypassing of components without stopping production is not a process unit shutdown.~~

~~"Production equipment exhaust system" means a system for collecting and directing into the atmosphere emissions of volatile organic material from reactors, centrifuges, and other process emission sources.~~

~~"Publication rotogravure printing line" means a rotogravure printing line in which coatings are applied to paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, or other types of printed material.~~

~~"Purged Process Fluid" means liquid or vapor from a process unit that contains volatile organic material and that results from flushing or cleaning the sample line(s) of a process unit so that an uncontaminated sample may then be taken for testing or analysis.~~

~~"Reactor" means a vat, vessel, or other device in which chemical reactions take place.~~

~~"Reasonably Available Control Technology (RACT)" means the lowest emission limitation that an emission source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.~~

~~"Refiner" means any person who owns, leases, operates, controls, or supervises a refinery.~~

~~"Refinery Fuel Gas" means any gas which is generated by a petroleum refinery process unit and which is combusted at the refinery, including any gaseous mixture of natural gas and fuel gas.~~

~~"Refinery unit, process unit or unit" means a set of components which are a part of a basic process operation such as distillation, hydrotreating, cracking, or reforming of hydrocarbons.~~

~~"Refrigerated condenser" means a surface condenser in which the coolant supplied to the condenser has been cooled by a mechanical device, other than by a cooling tower or evaporative spray cooling, such as refrigeration unit or steam chiller unit.~~

~~"Reid vapor pressure" means the standardized measure of the vapor pressure of a liquid in pounds per square inch absolute (Psia) at 100°F (37.8°C).~~

~~"Repair coatings" means coatings used to correct imperfections or damage to furniture surface.~~

~~"Repaired" means, for the purpose of Subpart Q of this Part, that equipment component has been adjusted, or otherwise altered, to eliminate a leak.~~

~~"Residual Fuel Oil" means fuel oils of grade No. 4, 5 and 6 as specified in detailed requirements for fuel oils A.S.T.M. D-396-69 (1971).~~

~~"Retail Outlet" means any gasoline dispensing facility at which gasoline is sold or offered for sale for use in motor vehicles.~~

~~"Roll coater" means an apparatus in which a uniform layer of coating is applied by means of one or more rolls across the entire width of a moving substrate.~~

~~"Roll printer" means an apparatus used in the application of words, designs, and pictures to a substrate, usually by means of one or more rolls each with only partial coverage.~~

~~"Roll printing" means the application of words, designs, and pictures to a substrate usually by means of a series of hard rubber or metal rolls each with only partial coverage.~~

~~"Roller coating" means a method of applying a coating to a sheet or strip in which the coating is transferred by a roller or series of rollers.~~

~~"Rolling limit" means that a limit or limitation must not exceed an annual limit rolled on a basis of at most a month monthly basis; that is, for example, a monthly production or capacity level must be determined for each parameter subject to a production or capacity limitation and added to the eleven prior monthly levels for monthly comparison with the annual limit.~~

~~"Rotogravure printing" means the application of words, designs, and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is recessed relative to the non-image area.~~

~~"Rotogravure printing line" means a printing line in which each roll printer uses a roll with recessed areas for applying an image to a substrate.~~

~~"Safety relief valve" means a valve which is normally closed and which is designed to open in order to relieve excessive pressures within a vessel or pipe.~~

~~"Sanding sealers" means any coatings formulated for and applied to bare wood for sanding and to seal the wood for subsequent application of varnish. To be considered a sanding sealer a coating must be clearly labelled as such.~~

~~"Sealer" means a coating containing binders which seals wood prior to the application of the subsequent coatings.~~

~~"Sensor" means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.~~

~~"Semi-transparent stains" means stains containing dyes or semi-transparent pigments which are formulated to enhance wood grain and change the color of the surface but not to conceal the surface, including, but not limited to, sap stain, toner, non-grain raising stains, pad stain, or spatter stain.~~

~~"Set of safety relief valves" means one or more safety relief valves designed to open in order to relieve excessive pressures in the same vessel or pipe.~~

~~"Sheet basecoat" means a coating applied to metal when the metal is in sheet form to serve as either the exterior or interior of a can for either two-piece or three-piece cans.~~

~~"Side-seam spray coat" means a coating applied to the seam of a three-piece can.~~

~~"Single coat" means one coating application applied to a metal surface.~~

~~"Solvent" means a liquid substance that is used to dissolve or dilute another substance.~~

~~"Solvent cleaning" means the process of cleaning soils from surfaces by cold cleaning, open top vapor degreasing, or conveyorized degreasing.~~

~~"Specified air contaminant" means any air contaminant as to which this Part contains emission standards or other specific limitations.~~

~~"Splash loading" means a method of loading a tank, railroad tank car, tank truck, or trailer by use of other than a submerged loading pipe.~~

~~"Stack" means a flue or conduit, free-standing or with exhaust port above the roof of the building on which it is mounted, by which air contaminants are emitted into the atmosphere.~~

~~"Standard conditions" means a temperature of 70°F and a pressure of 14.7 psia.~~

~~"Standard cubic foot (scf)" means the volume of one cubic foot of gas at standard conditions.~~

~~"Standard Industrial Classification Manual" means the Standard Industrial Classification Manual (1987), Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 (incorporated by reference in Section 218.112).~~

~~"Start-up" means the setting in operation of an emission source for any purpose.~~

~~"Stationary emission source" mean an emission source which is not self-propelled.~~

~~"Storage tank or storage vessel" means any stationary tank, reservoir or container used for the storage of VOL.~~

~~"Styrene Devolatilizer Unit" means equipment performing the function of separating unreacted styrene monomer and other volatile components from polystyrene in a vacuum devolatilizer.~~

~~"Styrene Recovery Unit" means equipment performing the function of separating styrene monomer from other less volatile components of the styrene devolatilizer unit's output. The separated styrene monomer may be reused as a raw material in the polystyrene plant.~~

~~"Submerged loading pipe" means any discharge pipe or nozzle which meets either of the following conditions:~~

> ~~Where the tank is filled from the top, the end of the discharge pipe or nozzle must be totally~~

~~submerged when the liquid level is 15 cm (6 in.) above the bottom of the tank.~~

~~Where the tank is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is 46 cm (18 in.) above the bottom of the tank.~~

~~"Substrate" means the surface onto which a coating is applied or into which a coating is impregnated.~~

~~"Surface condenser" means a device which removes a substance from a gas stream by reducing the temperature of the stream, without direct contact between the coolant and the stream.~~

~~"Synthetic Organic Chemical or Polymer Manufacturing Plant" means a plant that produces, as intermediates or final products, one or more of the chemicals or polymers listed in 35 Ill. Adm. Code 218 Appendix A.~~

~~"Tablet coating operation" means a pharmaceutical coating operation in which tablets are coated.~~

~~"Thirty-day rolling average" means any value arithmetically averaged over any consecutive thirty-days.~~

~~"Three-piece can" means a can which is made from a rectangular sheet and two circular ends.~~

~~"Topcoat" means a coating applied in a multiple coat operation other than prime coat, final repair coat, or prime surfacer coat.~~

~~"Topcoat operation" means all topcoat spray booths, flash-off areas, and bake ovens at a facility which are used to apply, dry, or cure the final coatings (except final off-line repair) on components of automobile or light-duty truck bodies.~~

~~"Transfer efficiency" means the ratio of the amount of coating solids deposited onto a part or product to the total amount of coating solids used.~~

~~"Tread End Cementing" means the application of a solvent-based cement to the tire tread ends.~~

~~"True vapor pressure" means the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517,~~

~~submerged when the liquid level is 15 cm (6 in.) above the bottom of the tank.~~

~~Where the tank is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is 46 cm (18 in.) above the bottom of the tank.~~

~~"Substrate" means the surface onto which a coating is applied or into which a coating is impregnated.~~

~~"Surface condenser" means a device which removes a substance from a gas stream by reducing the temperature of the stream, without direct contact between the coolant and the stream.~~

~~"Synthetic Organic Chemical or Polymer Manufacturing Plant" means a plant that produces, as intermediates or final products, one or more of the chemicals or polymers listed in 35 Ill. Adm. Code 218 Appendix A.~~

~~"Tablet coating operation" means a pharmaceutical coating operation in which tablets are coated.~~

~~"Thirty-day rolling average" means any value arithmetically averaged over any consecutive thirty-days.~~

~~"Three-piece can" means a can which is made from a rectangular sheet and two circular ends.~~

~~"Topcoat" means a coating applied in a multiple coat operation other than prime coat, final repair coat, or prime surfacer coat.~~

~~"Topcoat operation" means all topcoat spray booths, flash-off areas, and bake ovens at a facility which are used to apply, dry, or cure the final coatings (except final off-line repair) on components of automobile or light-duty truck bodies.~~

~~"Transfer efficiency" means the ratio of the amount of coating solids deposited onto a part or product to the total amount of coating solids used.~~

~~"Tread End Cementing" means the application of a solvent-based cement to the tire tread ends.~~

~~"True vapor pressure" means the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517,~~

~~"Evaporation Loss From Floating Roof Tanks," second edition, February 1980 (incorporated by reference in Section 218.112).~~

~~"Turnaround" means the procedure of shutting down an operating refinery unit, emptying gaseous and liquid contents to do inspection, maintenance and repair work, and putting the unit back into production.~~

~~"Two-piece can" means a can which is drawn from a shallow cup and requires only one end to be attached.~~

~~"Undercoaters" means any coatings formulated for and applied to substrates to provide a smooth surface for subsequent coats.~~

~~"Undertread Cementing" means the application of a solvent-based cement to the underside of a tire tread.~~

~~Unregulated safety relief valve" means a safety relief valve which cannot be actuated by a means other than high pressure in the pipe or vessel which it protects.~~

~~"Vacuum producing system" means any reciprocating, rotary, or centrifugal blower or compressor or any jet ejector or device that creates suction from a pressure below atmospheric and discharges against a greater pressure.~~

~~"Valves not externally regulated" means valves that have no external controls, such as in-line check valves.~~

~~"Vapor balance system" means any combination of pipes or hoses which creates a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.~~

~~"Vapor collection system" means all piping, seals, hoses, connections, pressure-vacuum vents, and other possible sources between the gasoline delivery vessel and the vapor processing unit and/or the storage tanks and vapor holder.~~

~~"Vapor control system" means any system that limits or prevents release to the atmosphere of organic material in the vapors displaced from a tank during the transfer of gasoline.~~

~~"Vapor-Mounted Primary Seal" means a primary seal mounted with an air space bounded by the bottom of the~~

~~primary seal, the tank wall, the liquid surface and the floating roof.~~

~~"Vapor recovery system" means a vapor gathering system capable of collecting all VOM vapors and gases discharged from the storage tank and a vapor disposal system capable of processing such VOM vapors and gases so as to prevent their emission to the atmosphere.~~

~~"Vehicle" means a device by which any person or property may be propelled, moved, or drawn upon a highway, excepting a device moved exclusively by human power or used exclusively upon stationary rails or tracks.~~

~~"Vinyl coating" means any topcoat or printing ink applied to vinyl coated fabric or vinyl sheets. Vinyl coating does not include plastisols.~~

~~"Vinyl coating facility" means a facility that includes one or more vinyl coating line(s).~~

~~"Vinyl coating line" means a coating line in which any protective, decorative or functional coating is applied onto vinyl coated fabric or vinyl sheets.~~

~~"Volatile organic liquid (VOL)" means any substance which is liquid at storage conditions and which contains volatile organic compounds.~~

~~"Volatile organic material (VOM) or volatile organic compound (VOC)" means "volatile organic material (VOM) or volatile organic compound (VOC)", as that term is defined in 35 Ill. Adm. Code Part 211.~~

~~"Volatile Petroleum Liquid" means any petroleum liquid with a true vapor pressure that is greater than 1.5 psia (78 millimeters of mercury) at standard conditions.~~

~~"Wash coat" means a coating containing binders which seals wood surfaces, prevents undesired staining, and controls penetration.~~

~~"Wastewater (Oil/Water) Separator" means any device or piece of equipment which utilizes the difference in density between oil and water to remove oil and associated chemicals from water, or any device, such as a flocculation tank or a clarifier, which removes petroleum derived compounds from waste water.~~

~~"Web" means a substrate which is printed in continuous roll-fed presses.~~

~~"Wood furniture" means room furnishings including cabinets (kitchen, bath, and vanity), tables, chairs, beds, sofas, shutters, art objects, wood paneling, wood flooring, and any other coated furnishings made of wood, wood composition, or fabricated wood materials.~~

~~"Wood furniture coating facility" means a facility that includes one or more wood furniture coating line(s).~~

~~"Wood furniture coating line" means a coating line in which any protective, decorative, or functional coating is applied onto wood furniture.~~

~~"Woodworking" means the shaping, sawing, grinding, smoothing, polishing, and making into products of any form or shape of wood.~~

<u>The definitions of 35 Ill. Adm. Code 211 apply to this Part.</u>

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.105 Test Methods and Procedures

a) Coatings, Inks and Fountain Solutions

The following test methods and procedures shall be used to determine compliance of <u>as</u> applied coatings, inks, and fountain solutions with the limitations set forth in this Part.

1) Sampling: Samples collected for analyses shall be one-liter taken into a one-liter container at a location and time such that the sample will be representative of the coating as applied (i.e., the sample shall include any dilution solvent or other VOM added during the manufacturing process). The container must be tightly sealed immediately after the sample is taken. Any solvent or other VOM added after the sample is taken must be measured and accounted for in the calculations in subsection (a)(3) <u>of this Section</u>. For multiple package coatings, separate samples of each component shall be obtained. A mixed sample shall not be obtained as it will cure in the container. Sampling procedures shall follow the guidelines presented in:

A) ASTM D3925-81(1985) standard practice for sampling liquid paints and related pigment coating. This practice is incorporated by reference in Section 218.112 of this Part.

B) ASTM E300-86 standard practice for sampling industrial chemicals. This practice is incorporated by reference in Section 218.112 of this Part.

2) Analyses: The applicable analytical methods specified below shall be used to determine the composition of coatings, inks, or fountain solutions as applied.

A) Method 24 of 40 CFR 60, Appendix A, incorporated by reference in Section 218.112 of this Part, shall be used to determine the VOM content and density of coatings. If it is demonstrated to the satisfaction of the Agency and the USEPA that plant coating formulation data are equivalent to Method 24 results, formulation data may be used. In the event of any inconsistency between a Method 24 test and a facility's formulation data, the Method 24 test will govern.

B) Method 24A of 40 CFR Part 60, Appendix A, incorporated by reference in Section 218.112 of this Part, shall be used to determine the VOM content and density of rotogravure printing inks and related coatings. If it is demonstrated to the satisfaction of the Agency and USEPA that the plant coating formulation data are equivalent to Method 24A results, formulation data may be used. In the event of any inconsistency between a Method 24A test and ~~a facility's~~ formulation data, the Method 24A test will govern.

C) The following ASTM methods are the analytical procedures for determining VOM:

i) ASTM D1475-85: Standard test method for density of paint, varnish, lacquer and related products. This test method is incorporated by reference in Section 218.112 of this Part.

ii) ASTM D2369-87: Standard test method for volatile content of a coating. This test method is incorporated by reference in Section 218.112 <u>of this Part</u>.

iii) ASTM D3792-86: Standard test method for water content of water-reducible paints by direct injection into a gas chromatograph. This test method is incorporated by reference in Section 218.112 <u>of this Part</u>.

iv) ASTM D4017-81(1987): Standard test method for water content in paints and paint materials by the Karl Fischer method. This test method is incorporated by reference in Section 218.112 <u>of this Part</u>.

v) ASTM D4457-85: Standard test method for determination of dichloromethane and 1,1,1, trichloroethane in paints and coatings by direct injection into a gas chromatograph. (The procedure delineated above can be used to develop protocols for any compounds specifically exempted from the definition of VOM.) This test method is incorporated by reference in Section 218.112 <u>of this Part</u>.

vi) ASTM D2697-86: Standard test method for volume non-volatile matter in clear or pigmented coatings. This test method is incorporated by reference in Section 218.112 <u>of this Part</u>.

vii) ASTM D3980-87: Standard practice for interlaboratory testing of paint and related materials. This practice is incorporated by reference in Section 218.112 <u>of this Part</u>.

viii) ASTM E180-85: Standard practice for determining the precision data of ASTM methods for analysis of and testing of industrial chemicals. This practice is incorporated by reference in Section 218.112 <u>of this Part</u>.

ix) ASTM D2372-85: Standard method of separation of vehicle from solvent-reducible paints. This method is

incorporated by reference in Section 218.112 of this Part.

D) Use of an adaptation to any of the analytical methods specified in subsections (a)(2)(A), (B), and (C) of this Section may not be used unless approved by the Agency and USEPA. An owner or operator must submit sufficient documentation for the Agency and USEPA to find that the analytical methods specified in subsections (a)(2)(A), (B), and (C) of this Section will yield inaccurate results and that the proposed adaptation is appropriate.

3) Calculations: Calculations for determining the VOM content, water content and the content of any compounds which are specifically exempted from the definition of VOM of coatings, inks and fountain solutions as applied shall follow the guidance provided in the following documents~~.~~:

A) "A Guide for Surface Coating Calculation", EPA-340/1-86-016, incorporated by reference in Section 218.112 of this Part.

B) "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coatings" (revised June 1986), EPA-450/3-84-019, incorporated by reference in Section 218.112 of this Part.

C) "A Guide for Graphic Arts Calculations", August 1988, EPA-340/1-88-003, incorporated by reference in Section 218.112 of this Part.

b) Automobile or Light-Duty Truck Test Protocol

1) The protocol for testing, including determining the transfer efficiency~~,~~ of coating applicators, at primer surfacer operations and topcoat ~~coating~~ operations at an automobile or light-duty truck assembly ~~facility~~ source shall follow the procedures in:"Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations" ("topcoat protocol"), December 1988, EPA-450/3-88-018, incorporated by reference in Section 218.112 of this Part.

2) Prior to testing pursuant to the topcoat protocol, the owner or operator of a coating operation subject to the topcoat or primer surfacer limit in

Sections 218.204(a)(2) or 218.204(a)(3) shall submit a detailed testing proposal specifying the method by which testing will be conducted and how compliance will be demonstrated consistent with the topcoat protocol. The proposal shall include, at a minimum, a comprehensive plan (including a rationale) for determining the transfer efficiency at each booth through the use of in-plant or pilot testing, the selection of coatings to be tested (for the purpose of determining transfer efficiency) including the rationale for coating groupings, the method for determining the analytic VOM content of as applied coatings and the formulation solvent content of as applied coatings, and a description of the records of coating VOM content as applied and coating's usage which will be kept to demonstrate compliance. Upon approval of the proposal by the Agency and USEPA, the compliance demonstration for a coating line may proceed.

c) Capture System Efficiency Test Protocols

1) Applicability

The requirements of subsection (c)(2) of this Section shall apply to all VOM emitting processe~~s~~ emission units employing capture equipment (e.g., hoods, ducts), except those cases noted below.

A) If an ~~source installs~~emission unit is equipped with (or uses) a permanent total enclosure (PTE) that meets Agency and USEPA specifications, and which directs all VOM to a control device, then the ~~source~~emission unit is exempted from the requirements described in subsection (c)(2) of this Section. The Agency and USEPA specifications to determine whether a structure is considered a PTE are given in Procedure T of Appendix B of this Part. In this instance, the capture efficiency is assumed to be 100 percent and the ~~source~~emission unit is still required to measure control efficiency using appropriate test methods as specified in subsection (d) of this Section.

B) If an ~~source uses~~emission unit is equipped with (or uses) ~~uses~~ a control device designed to collect and recover VOM (e.g., carbon adsorber), an explicit measurement of capture efficiency is not necessary provided that the conditions given below are met. The overall control of the system can be determined by directly comparing the input liquid VOM to the recovered liquid VOM. The general procedure for use in this situation is given in 40 CFR 60.433, incorporated by reference in Section 218.112 of this Part, with the following additional restrictions:

i) ~~The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average, within 72 hours following the 24-hour period. In addition, one of the following two criteria must be met:~~ Unless otherwise specified in subsection (c)(1)(B)(ii) below, the owner or operator shall obtain data each operating day for the solvent usage and solvent recovery to permit the determination of the solvent recovery efficiency of the system each operating day using a 7-day rolling period. The recovery efficiency for each operating day is computed as the ratio of the total recovered solvent for that day and the most recent prior 6 operating days to the total solvent usage for the same 7-day period used for the recovered solvent, rather than a 30-day weighted average as given in 40 CFR 60.433 incorporated by reference at Section 218.112 of this Part. This ratio shall be expressed as a percentage. The ratio shall be computed within 72 hours following each 7-day period. A source that believes that the 7-day rolling period is not appropriate may use an alternative multi-day rolling period not to exceed 30 days, with the approval of the Agency and USEPA. In addition, the criteria in subsection (c)(1)(B)(iii) or subsection (c)(1)(B)(iv) below must be met.

ii) The owner or operator of the source engaged in printing located at 350 E. 22nd Street, Chicago, Illinois, shall obtain data each operating day for the solvent usage and solvent recovery to permit the determination of the solvent recovery efficiency of the system each operating day using a 14-day rolling period. The recovery efficiency for each operating day is computed as the ratio of the total recovered solvent for that day and the most recent prior 13 operating days to the total solvent usage for the same 14-day period used for the recovered solvent, rather than a 30-day weighted average as given in 40 CFR 60.433, incorporated by reference in Section 218.112 of this Part. This ratio shall be expressed as a percentage. The ratio shall be computed within 17 days following each 14-day period. In addition, the criteria in subsection (c)(1)(B)(iii) or subsection (c)(1)(B)(iv) below must be met.

~~ii)~~iii) The solvent recovery system (i.e., capture and control system) must be dedicated to a single coating line, printing line, or other discrete activity that by itself is subject to an applicable VOM emission standard, ~~process line (e.g., one process line venting to a carbon adsorber system),~~ or

~~iii)~~iv) If the solvent recovery system controls more than one coating line, printing line or other discrete activity that by itself is subject to an applicable VOM emission standard, the overall control (i.e. the total recovered VOM divided by the sum of liquid VOM input from all lines and other activities venting to the control system) must meet or exceed the most stringent standard applicable to any line or other discrete activity venting to the control system.~~multiple process lines, then the source must be able to demonstrate that the overall control (i.e.,the total recovered solvent VOM divided by the sum of liquid VOM input to all process lines venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.~~

2) Specific Requirements

The capture efficiency of a~~n~~ ~~process line~~emission unit shall be measured using one of the four protocols given below. Any error margin associated with a test protocol may not be incorporated into the results of a capture efficiency test. If these techniques are not suitable for a particular process, then ~~the source may use~~ an alternative capture efficiency protocol may be used, provided that the alternative protocol is approved by the Agency and approved by the USEPA as a SIP revision.

A) Gas/gas method using temporary total enclosure (TTE). The Agency and USEPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T of Appendix B of this Part. The capture efficiency equation to be used for this protocol is:

$$CE = Gw/(Gw + Fw)$$

where:

CE = C~~c~~apture efficiency, decimal fraction;

Gw = M~~m~~ass of VOM captured and delivered to control device using a TTE;

Fw = M~~m~~ass of fugitive VOM that escapes from a TTE.

Procedure G.2 contained in Appendix B of this Part is used to obtain Gw. Procedure F.1 in Appendix B of this Part is used to obtain Fw.

B) Liquid/gas method using TTE. The Agency and USEPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T of Appendix B of this Part. The capture efficiency equation to be used for this protocol is:

$$CE = (L - Fw)/L$$

where:

CE = C~~c~~apture efficiency, decimal fraction;

L = ~~M~~mass of liquid VOM input to process emission unit;

Fw = ~~M~~mass of fugitive VOM that escapes from a TTE.

Procedure L contained in Appendix B of this Part is used to obtain L. Procedure F.1 in Appendix B of this Part is used to obtain Fw.

C) Gas/gas method using the building or room (building or room enclosure), in which the affected coating line, printing line or other ~~source~~emission unit is located, as the enclosure and in which "F" and "G" are measured while operating only the affected line or ~~facility~~emission unit. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = G/(G + F_B)$$

where:

CE = ~~C~~capture efficiency, decimal fraction;

G = ~~M~~mass of VOM captured and delivered to control device;

F_B = ~~M~~mass of fugitive VOM that escapes from building enclosure.

Procedure G.2 contained in Appendix B of this Part is used to obtain G. Procedure F.2 in Appendix B of this Part is used to obtain F_B.

D) Liquid/gas method using the building or room (building or room enclosure), in which the affected coating line, printing line or other ~~source~~emission unit is located, as the enclosure and in which "F" and "L" are measured while operating only the affected line or ~~facility~~emission unit. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$CE = (L - F_B)/L$

where:

CE = ~~C~~Ccapture efficiency, decimal fraction;

L = ~~m~~Mmass of liquid VOM input to process emission unit;

F_B = ~~m~~Mmass of fugitive VOM that escapes from building enclosure.

Procedure L contained in Appendix B of this Part is used to obtain L. Procedure F.2 in Appendix B of this Part is used to obtain F_B.

3) Recordkeeping and Reporting

A) All ~~affected facilities~~owners or operators affected by this subsection must maintain a copy of the capture efficiency protocol submitted to the Agency and the USEPA on file. All results of the appropriate test methods and capture efficiency protocols must be reported to the Agency within sixty (60) days of the test date. A copy of the results must be kept on file with the source for a period of three (3) years.

B) If any changes are made to capture or control equipment, then the source is required to notify the Agency and the USEPA of these changes and a new test may be required by the Agency or the USEPA.

C) The source must notify the Agency 30 days prior to performing any capture efficiency or control test. At that time, the source must notify the Agency which capture efficiency protocol and control device test methods will be used.

D) Sources utilizing a PTE must demonstrate that this enclosure meets the requirement given in Procedure T (in Appendix B of this Part) for a PTE during any testing of their control device.

E) Sources utilizing a TTE must demonstrate that their TTE meets the requirements given in Procedure T (in Appendix B of this Part) for a TTE during testing of their control device. The source must also provide documentation that the quality assurance criteria for a TTE have been achieved.

d) Control Device Efficiency Testing and Monitoring

1) The control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified in subsection (f) of this Section.

2) An~~y~~ owner or operator:

A) ~~t~~That uses an afterburner or carbon adsorber to comply with any Section of ~~this~~ Part 218 shall use Agency and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the afterburner or carbon adsorber is in use except as provided in subsection (d)(3) of this Section. The continuous monitoring equipment must monitor the following parameters:

~~A)~~ i) For each afterburner which does not have a catalyst bed, the ~~C~~combustion chamber temperature of each afterburner.

~~B)~~ ii) For each afterburner which has a catalyst bed, commonly known as a catalytic afterburner, the ~~T~~temperature rise across each catalytic afterburner bed or VOM concentration of exhaust.

~~C)~~ iii) For each carbon adsorber, ~~T~~the VOM concentration of each carbon adsorption bed exhaust or the exhaust of the bed next in sequence to be desorbed.

B) Of an automobile or light-duty truck primer surfacer operation or topcoat operation subject to subsection (d)(2)(A) above, shall keep a separate record of the following data for the control devices, unless alternative provisions are set forth in a permit pursuant to Title V of the Clean Air Act:

i) For thermal afterburners for which combustion chamber temperature is monitored, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature measured during the most recent performance test that demonstrated that the operation was in compliance.

ii) For catalytic afterburners for which temperature rise is monitored, all 3-hour periods of operation in which the average gas temperature before the catalyst bed is more than 28°C (50°F) below the average gas temperature immediately before the catalyst bed measured during the most recent performance test that demonstrated that the operation was in compliance.

iii) For catalytic afterburners and carbon adsorbers for which VOM concentration is monitored, all 3-hour periods of operation during which the average VOM concentration or the reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organic monitoring device during the most recent determination of the recovery efficiency of a carbon adsorber or performance test for a catalytic afterburner, which determination or test demonstrated that the operation was in compliance.

3) An owner or operator that uses a carbon adsorber to comply with Section 218.401 of this Part may operate the adsorber during periods of monitoring equipment malfunction, provided that:

A) The owner or operator notifies in writing the Agency ~~and USEPA~~ within, 10 days after the conclusion of any 72 hour period during which the adsorber is operated and the associated monitoring equipment is not operational, of such monitoring equipment failure and provides the duration of the malfunction, a description of the repairs made to the equipment, and the total to date of all hours in the calendar year during which the adsorber was operated and the associated monitoring equipment was not operational;

B) During such period of malfunction the adsorber is operated using timed sequences as the basis for periodic regeneration of the adsorber;

C) The period of such adsorber operation does not exceed 360 hours in any calendar year without the approval of the Agency and USEPA; and

D) The total of all hours in the calendar year during which the adsorber was operated and the associated monitoring equipment was not operational shall be reported, in writing, to the Agency ~~and USEPA~~ by January 31st of the following calendar year.

e) Overall Efficiency

1) The overall efficiency of the emission control system shall be determined as the product of the capture system efficiency and the control device efficiency or by the liquid/liquid test protocol as specified in 40 CFR 60.433, incorporated by reference in Section 218.112 of this Part, (and revised by subsection (c)(1)(B) of this Section) for each solvent recovery system. In those cases in which the overall efficiency is being determined for an entire line, the capture efficiency used to calculate the product of the capture and control efficiency is the total capture efficiency over the entire line.

2) For coating lines which are both chosen by the owner or operator to comply with Section 218.207~~(a)~~(c), (d), (e), (f), or (g) of this Part by the alternative in Section 218.207(b)(2) of this Part and meet the criteria allowing them to comply with Section 218.207 of this Part instead of Section 218.204 of this Part, the overall efficiency of the capture system and control device, as determined by the test methods and procedures specified in subsections (c), (d) and (e)(1) of this Section, shall be no less than the

equivalent overall efficiency which shall be calculated by the following equation:

$$E = ([VOM_a - VOM_1]/VOM_a) \times 100$$

where:

E = Equivalent overall efficiency of the capture system and control device as a percentage~~,~~;

VOM_a = Actual VOM content of a coating, or the daily-weighted average VOM content of two or more coatings (if more than one coating is used), as applied to the subject coating line as determined by the applicable test methods and procedures specified in subsection (a) of this Section in units of kg VOM/l (lb VOM/gal) of coating solids as applied~~,~~;

VOM_1 = The VOM emission limit specified in Sections ~~218.207(a) or (b)~~ 218.204 or 218.205 of this Part in units of kg VOM/l (lb VOM/gal) of coating solids as applied.

f) Volatile Organic Material Gas Phase Source Test Methods

The methods in 40 CFR Part 60, Appendix A, incorporated by reference in Section 218.112 of this Part delineated below shall be used to determine control device efficiencies.

1) 40 CFR Part 60, Appendix A, Method 18, 25 or 25A, incorporated by reference in Section 218.112 of this Part as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. Except as indicated in subsections (f)(1)(A) and (B) below, the test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Agency and the USEPA determine that process variables dictate shorter sampling times.

A) When the method is to be used to determine the efficiency of a carbon adsorption system with a common exhaust stack for all the individual adsorber vessels, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all the individual adsorber vessels.

B) When the method is to be used to determine the efficiency of a carbon adsorption system with individual exhaust stacks for each adsorber vessel, each adsorber vessel shall be tested individually. The test for each adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

2) 40 CFR Part 60, Appendix A, Method 1 or 1A, incorporated by reference in Section 218.112 of this Part, shall be used for sample and velocity traverses.

3) 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D, incorporated by reference in Section 218.112 of this Part, shall be used for velocity and volumetric flow rates.

4) 40 CFR Part 60, Appendix A, Method 3, incorporated by reference in Section 218.112 of this Part, shall be used for gas analysis.

5) 40 CFR Part 60, Appendix A, Method 4, incorporated by reference in Section 218.112 of this Part, shall be used for stack gas moisture.

6) 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4, incorporated by reference in Section 218.112 of this Part, shall be performed, as applicable, at least twice during each test run.

7) Use of an adaptation to any of the test methods specified in subsections (f)(1), (2), (3), (4), (5) and (6) of this Section may not be used unless approved by the Agency and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Agency and the USEPA to find that the test methods specified in subsections (f)(1), (2), (3), (4), (5) and (6) of this Section will yield inaccurate results and that the proposed adaptation is appropriate.

g) Leak Detection Methods for Volatile Organic Material

Owners or operators required by this Part to carry out a leak detection monitoring program shall comply with the following requirements:

1) Leak Detection Monitoring

A) Monitoring shall comply with 40 CFR 60, Appendix A, Method 21, incorporated by reference in Section 218.112 <u>of this Part</u>.

B) The detection instrument shall meet the performance criteria of Method 21.

C) The instrument shall be calibrated before use on each day of its use by the methods specified in Method 21.

D) Calibration gases shall be:

i) Zero air (less than 10ppm of hydrocarbon in air); and

ii) A mixture of methane or n-hexane and air at a concentration of approximately, but no less than, 10,000 ppm methane or n-hexane.

E) The instrument probe shall be traversed around all potential leak interfaces as close <u>to the interface as</u> possible as described in Method 21.

2) When equipment is tested for compliance with no detectable emissions as required, the test shall comply with the following requirements:

A) The requirements of subsections (g)(1)(A) through (g)(1)(E) <u>of this Section</u> above shall apply.

B) The background level shall be determined as set forth in Method 21.

3) Leak detection tests shall be performed consistent with:

A) "APTI Course SI 417 controlling Volatile Organic Compound Emissions from Leaking Process Equipment", EPA-450/2-82-015,

incorporated by reference in Section 218.112 of this Part.

B) "Portable Instrument User's Manual for Monitoring VOC Sources", EPA-340/1-86-015, incorporated by reference in Section 218.112 of this Part.

C) "Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC and VHAP", EPA-450/3-88-010, incorporated by reference in Section 218.112 of this Part.

D) "Petroleum Refinery Enforcement Manual", EPA-340/1-80-008, incorporated by reference in Section ~~218.122~~218.112 of this Part.

h) Bulk Gasoline Delivery System Test Protocol

1) The method for determining the emissions of gasoline from a vapor recovery system are delineated in 40 CFR 60, Subpart XX, Section 60.503, incorporated by reference in Section 218.112 of this Part.

2) Other tests shall be performed consistent with:

A) "Inspection Manual for Control of Volatile Organic Emissions from Gasoline Marketing Operations: Appendix D", EPA-340/1-80-012, incorporated by reference in Section 218.112 of this Part.

B) "Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals: Appendix A", EPA-450/2-77-026, incorporated by reference in Section 218.112 of this Part.

i) Notwithstanding other requirements of this Part, upon request of the Agency where it is necessary to demonstrate compliance, an owner or operator of an emission ~~source~~ unit which is subject to this Part shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in this Part. Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

j) Stage II Gasoline Vapor Recovery Test Methods

The methods for determining the acceptable performance of Stage II Gasoline Vapor Recovery System are delineated in "Technical Guidance-Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities," found at EPA 450/3-91-022b and incorporated by reference in Section 218.112 of this Part. Specifically, the test methods are as follows:

1) Dynamic Backpressure Test is a test procedure used to determine the pressure drop (flow resistance) through balance vapor collection and control systems (including nozzles, vapor hoses, swivels, dispenser piping and underground piping) at prescribed flow rates.

2) Pressure Decay/Leak Test is a test procedure used to quantify the vapor tightness of a vapor collection and control system installed at gasoline dispensing facilities.

3) Liquid Blockage Test is a test procedure used to detect low points in any vapor collection and control system where condensate may accumulate.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.106 Compliance Dates

a) Compliance with the requirements of all rules is required by July, 1991, or September 1, 1991, for all sources located in Cook, DuPage, Kane, Lake, McHenry or Will Counties, consistent with the appropriate provisions of Section 218.103 of this Part.

b) Compliance with the requirements of this Part is required by November 15, 1993, for all sources located in Aux Sable Township or Goose Lake Township in Grundy County or in Oswego Township in Kendall County.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.107 Operation of Afterburners

The operation of any natural gas fired afterburner and capture system used to comply with this Part is not required during the period of November 1 of any year to April 1 of the following year provided that the operation of such devices is not required for purposes of occupational safety or health, or for the control of toxic substances, odor nuisances, or other regulated pollutants.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.109 Vapor Pressure of Volatile Organic Liquids

a) If the VOL consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 218.112 <u>of this Part</u>) or the vapor pressure may be obtained from a ~~published source~~<u>publication</u> such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973); Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984); CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87); and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

b) If the VOL is a mixture, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 218.112) or by the following equation:

$$P_{vol} = \sum_{i=1}^{n} P_i \quad X_i$$

where:

P_{vol} = Total vapor pressure of the mixture~~,~~<u>;</u>

n = Number of components in the mixture~~,~~<u>;</u>

i = Subscript denoting an individual component~~,~~<u>;</u>

P_i = Vapor pressure of a component determined in accordance with ~~Subpart A of this Part~~<u>subsection (a) of this Section;</u>

X_i = Mole fraction of the component in the total mixture.

(Source: Amended at ___ Ill. Reg. _____, effective ______________ _________)

Section 218.110 Vapor Pressure of Organic Material or Solvent

a) If the organic material or solvent consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in

Section 218.112 of this Part) or the vapor pressure may be obtained from a ~~published source~~ publication such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973); Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984); CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87); and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

b) If the organic material or solvent is in a mixture made up of both organic material compounds and compounds which are not organic material, the vapor pressure shall be determined by the following equation:

$$\cancel{P_{vom}}\ \underline{P_{om}} = \frac{\sum_{i=1}^{n} P_i X_i}{\sum_{i=1}^{n} X_i}$$

where:

P_{om} = Total vapor pressure of the portion of the mixture which is composed of organic material~~,~~;

n = Number of organic material components in the mixture~~,~~;

i = Subscript denoting an individual component~~,~~;

P_i = Vapor pressure of an organic material component determined in accordance with ~~Subpart A of this Part~~ subsection (a) of this Section~~,~~;

X_i = Mole fraction of the organic material component of the total mixture.

c) If the organic material or solvent is in a mixture made up of only organic material compounds, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 218.112 of this Part) or by the above equation.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.111 Vapor Pressure of Volatile Organic Material

a) If the VOM consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 218.112 <u>of this Part</u>) or the vapor pressure may be obtained from a ~~published source~~<u>publication</u> such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973); Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984); CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87); and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

b) If the VOM is in a mixture made up of both VOM compounds and compounds which are not VOM, the vapor pressure shall be determined by the following equation:

$$P_{vom} = \frac{\sum_{i=1}^{n} P_i \quad X_i}{\sum_{i=1}^{n} X_i}$$

where:

P_{vom} = Total vapor pressure of the portion of the mixture which is composed of VOM~~,~~<u>;</u>

n = Number of VOM components in the mixture~~,~~<u>;</u>

i = Subscript denoting an individual component~~,~~<u>;</u>

P_i = Vapor pressure of a VOM component determined in accordance with ~~Subpart A of this Part~~ <u>subsection (a) of this Section</u>~~,~~<u>;</u>

X_i = Mole fraction of the VOM component of the total mixture.

c) If the VOM is in a mixture made up of only VOM compounds, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 218.112 <u>of this Part</u>) or by the above equation.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.112 Incorporations by Reference

The following materials are incorporated by reference and do not contain any subsequent additions or amendments:

a) American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103:

1) ASTM D2879-86
2) ASTM D323-82
3) ASTM D86-82
4) ASTM D-369-69 (1971)
5) ASTM D-396-69
6) ASTM D2880-71
7) ASTM D-975-68
8) ASTM D3925-81 (1985)
9) ASTM E300-86
10) ASTM D1475-85
11) ASTM D2369-87
12) ASTM D3792-86
13) ASTM D4017-81 (1987)
14) ASTM D4457-85
15) ASTM D2697-86
16) ASTM D3980-87
17) ASTM E180-85
18) ASTM D2372-85
19) ASTM D97-66
20) ASTM E-168-67 (1977)
21) ASTM E-169-87
22) ASTM E-260-91
23) ASTM D2504-83
24) ASTM D2382-83
25) ASTM D323-82 (approved 1982)

b) Standard Industrial Classification Manual, published by Executive Office of the President, Office of Management and Budget, Washington, D.C., 1987.

c) American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks", Second ed., February, 1980.

d) 40 CFR Part 60 (July 1, ~~1990~~1991) and 40 CFR 60, Appendix A, Method 24 (57 FR 30654, July 10, 1992).

e) 40 CFR Part 61 (July 1, ~~1990~~1991).

f) 40 CFR Part 50 (July 1, ~~1989~~1991).

g) 40 CFR Part 51 (July 1, ~~1989~~1991).

h) 40 CFR Part 52 (July 1, ~~1989~~1991).

i) 40 CFR Part 80 (July 1, 1991).

~~i)~~j) "A Guide for Surface Coating Calculation", United States Environmental Protection Agency, Washington, D.C., EPA-340/1-86-016.

~~j)~~k) "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coating", (revised June 1986), United States Environmental Protection Agency, Washington D.C., EPA-450/3-84-019.

~~k)~~l) "A Guide for Graphic Arts Calculations", August 1988, United States Environmental Protection Agency, Washington D.C., EPA-340/1-88-003.

~~l)~~m) "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations", December 1988, United States Environmental Protection Agency, Washington D.C., EPA-450/3-88-018.

~~m)~~n) "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products", United States Environmental Protection Agency, Washington, D.C., EPA-450/2-78-029.

~~n)~~o) "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems", Appendix B, United States Environmental Protection Agency, Washington, D.C., EPA-450/2-78-051.

~~o)~~p) "Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners", United States Environmental Protection Agency, Washington, D.C., EPA-450/3-82-009.

q) "APTI Course SI417 Controlling Volatile Organic Compound Emissions from Leaking Process Equipment", United States Environmental Protection Agency, Washington, D.C., EPA-450/2-82-015.

r) "Portable Instrument User's Manual for Monitoring VOC Sources", United States Environmental Protection Agency, Washington, D.C., EPA-340/1-86-015.

s) "Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC and VHAP", United

States Environmental Protection Agency, Washington, D.C., EPA-450/3-88-010.

t) "Petroleum Refinery Enforcement Manual", United States Environmental Protection Agency, Washington, D.C., EPA-340/1-80-008.

u) "Inspection Manual for Control of Volatile Organic Emissions from Gasoline Marketing Operations: Appendix D", United States Environmental Protection Agency, Washington, D.C., EPA-340/1-80-012.

v) "Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals: Appendix A", United States Environmental Protection Agency, Washington, D.C., EPA-450/2-77-026.

w) "Technical Guidance-Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities", United States Environmental Protection Agency, Washington, D.C., EPA-450/3-91-022b.

x) California Air Resources Board, Compliance Division. Compliance Assistance Program: Gasoline Marketing and Distribution: Gasoline Facilities Phase I & II (October 1988, rev. March 1991) (CARB Manual).

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART B: ORGANIC EMISSIONS FROM STORAGE AND LOADING OPERATIONS

Section 218.121 Storage Containers

No person shall cause or allow the storage of any VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F) or any gaseous organic material in any stationary tank, reservoir or other container of more than 151 cubic meters (40,000 gal) capacity unless such tank, reservoir or other container:

a) Is a pressure tank capable of withstanding the vapor pressure of such liquid or the pressure of the gas, so as to prevent vapor or gas loss to the atmosphere at all times; or,

b) Is designed and equipped with one of the following vapor loss control devices:

1) A floating roof which rests on the surface of the VOL and is equipped with a closure seal or seals between the roof edge and the tank wall. Such

floating roof shall not be permitted if the VOL has a vapor pressure of 86.19 kPa (12.5 psia) or greater at 294.3°K (70°F). No person shall cause or allow the emission of air contaminants into the atmosphere from any gauging or sampling devices attached to such tanks, except during sampling or maintenance operations.

2) A vapor recovery system consisting of:

A) A vapor gathering system capable of collecting 85% or more of the uncontrolled VOM that would be otherwise emitted to the atmosphere; and,

B) A vapor disposal system capable of processing such VOM so as to prevent its emission to the atmosphere. No person shall cause or allow the emission of air contaminants into the atmosphere from any gauging or sampling devices attached to such tank, reservoir or other container except during sampling.

3) Other equipment or means of equal efficiency approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with Section 218.108.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.122 Loading Operations

a) No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere during the loading of any organic material from the aggregate loading pipes of any loading ~~facility~~ area having through-put of greater than 151 cubic meters per day (40,000 gal/day) into any railroad tank car, tank truck or trailer unless such loading ~~facility~~area is equipped with submerged loading pipes~~,~~ ~~submerged fill~~ or a device that is equally effective in controlling emissions and is approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with Section 218.108.

b) No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 1 (250 gal), unless such tank is equipped with a permanent submerged loading pipe~~, submerged fill~~ or an equivalent device approved by the Agency according to the provisions of

35 Ill. Adm. Code 201, and further processed consistent with Section 218.108 of this Part, or unless such tank is a pressure tank as described in Section 218.121(a) of this Part or is fitted with a recovery system as described in Section 218.121(b)(2) of this Part.

c) Exception: If no odor nuisance exists the limitations of this Section shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

(Source: Amended at ___ Ill. Reg. ______, effective ____________ _________)

Section 218.123 Petroleum Liquid Storage Tanks

a) The requirements of subsection (b) of this Section shall not apply to any stationary storage tank:

1) Equipped before January 1, 1979 with one of the vapor loss control devices specified in Section 218.121(b) of this Part, except Section 218.121(b)(1) of this Part;

2) With a capacity of less than 151.42 cubic meters (40,000 gal);

3) With a capacity of less than 1,600 cubic meters (422,400 gal) and used to store produced crude oil and condensate prior to custody transfer;

4) With a capacity of less than 1,430 cubic meters (378,000 gal) and used to store produced oil or condensate in crude oil gathering;

5) Subject to new source performance standards for storage vessels of petroleum liquid, ~~35 Ill. Adm. Code 230~~ 40 CFR 60, as regulations promulgated by the U.S. Environmental Protection Agency under Section 111 of the Clean Air Act (42 USC 7411), as amended. THE PROVISIONS OF SECTION 111 OF THE CLEAN AIR ACT ... ARE APPLICABLE IN THIS STATE AND ARE ENFORCEABLE UNDER [THE ENVIRONMENTAL PROTECTION ACT] (Ill. Rev. Stat. 1991, ch. 111½, Par. 1009.1(b)) [415 ILCS 5/9.1(b)];

6) In which volatile petroleum liquid is not stored; or

7) Which is a pressure tank as described in Section 218.121(a) of this Part.

b) Subject to subsection (a) of this Section no owner or operator of a stationary storage tank shall cause or allow the storage of any volatile petroleum liquid in the tank unless:

1) The tank is equipped with one of the vapor loss control devices specified in Section 218.121(b) of this Part;

2) There are no visible holes, tears or other defects in the seal or any seal fabric or material of any floating roof;

3) All openings of any floating roof deck, except stub drains, are equipped with covers, lids or seals such that:

A) The cover, lid or seal is in the closed position at all times except when petroleum liquid is transferred to or from the tank;

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

C) Rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting;

4) Routine inspections of floating roof seals are conducted through roof hatches once every six months;

5) A complete inspection of the cover and seal of any floating roof tank is made whenever the tank is emptied for reasons other than the transfer of petroleum liquid during the normal operation of the tank, or whenever repairs are made as a result of any semi-annual inspection or incidence of roof damage or defect; and

6) A record of the results of each inspection conducted under subsection (b)(4) or (b)(5) of this Section is maintained.

~~c) Owners and operators of petroleum liquid storage tanks were required to have compliance schedules as summarized in Appendix C to 35 Ill Adm. Code 215.~~

(Source: Amended at ___ Ill. Reg. ______, effective ____________ _________)

Section 218.124 External Floating Roofs

a) In addition to meeting the requirements of Section 218.123(b) of this Part, no owner or operator of a stationary storage tank equipped with an external floating roof shall cause or allow the storage of any volatile petroleum liquid in the tank unless:

1) The tank has been fitted:

A) ~~w~~With a continuous secondary seal extending from the floating roof to the tank wall (rim mounted secondary seal), or

B) With a~~A~~ny other ~~device which controls VOM emissions with an effectiveness equal to or greater than a rim mounted secondary seal;~~equipment or means of equal efficiency approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with Section 218.108 of this Part;

2) Each seal closure device meets the following requirements:

A) The seal is intact and uniformly in place around the circumference of the floating roof between the floating roof and tank wall; and

B) The accumulated area of gaps exceeding 0.32 centimeter (1/8 inch) in width between the secondary seal and the tank wall shall not exceed 21.2 square centimeters per meter of tank diameter (1.0 square inch~~es~~ per foot of tank diameter). Compliance with this requirement shall be determined by:

i) Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 0.32 cm (0.125 in.) uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and the tank wall; and

ii) Summing the area of the individual gaps.

3) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers across at least 90 percent of the area of the opening;

4) Openings are equipped with projections into the tank which remain below the liquid surface at all times;

5) Inspections are conducted prior to May 1 of each year to insure compliance with subsection (a) of this Section;

6) The secondary seal gap is measured prior to May 1 of each year~~;~~ and within 30 days of a written request to demonstrate compliance with subsection (2)(B) of this Section;

7) Records of the types of volatile petroleum liquid stored, the maximum true vapor pressure of the liquid as stored, the results of the inspections and the results of the secondary seal gap measurements are maintained and available to the Agency, upon verbal or written request, at any reasonable time for a minimum of two years after the date on which the record was made.

b) Subsection (a) above does not apply to any stationary storage tank equipped with an external floating roof:

1) Exempted under Section 218.123(a)(2) through 218.123(a)(6) of this Part;

2) Of welded construction equipped with a metallic type shoe seal having a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal);

3) Of welded construction equipped with a metallic type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled-type seal, or other closure device of equivalent control efficiency approved by the Agency in which a petroleum liquid with a true vapor pressure less than 27.6 kPa (4.0 psia) at 294.3°K (70° F) is stored; or

4) Used to store crude oil with a pour point of 50°F or higher as determined by ASTM Standard D97-66 incorporated by reference in Section 218.112 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.125 Compliance Dates (Repealed)

~~Every owner or operator of an emission source subject to 35 Ill. Adm. Code 215, Subpart B, as of December 31, 1987 shall have complied with its standards and limitations by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ _________)

Section 218.126 Compliance Plan (Repealed)

~~a) The owner or operator of an emission source previously subject to Section 215.125 shall have submitted to the Agency a compliance plan as required by 35 Ill. Adm. Code 201.241, including a project completion schedule where applicable, no later than April 21, 1983.~~

~~b) Unless the submitted compliance plan or schedule was disapproved by the Agency, the owner or operator of a facility or emission source subject to the rules specified in subsection (a) may operate the emission source according to the plan and schedule as submitted.~~

~~c) The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201.241 including specific interim dates as required in 35 Ill. Adm. Code 201.242.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ _________)

SUBPART C: ORGANIC EMISSIONS FROM MISCELLANEOUS EQUIPMENT

Section 218.141 Separation Operations

a) No person shall use any single or multiple compartment effluent water separator which receives effluent water containing 757 l/day (200 gal/day) or more of organic material from any equipment processing, refining, treating, storing or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. Exception: If no odor nuisance exists the limitations of this subsection shall not apply if the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3°K (70°F).

b) Subsection (a) of this Section shall not apply to water and crude oil separation in the production of Illinois crude oil, if the vapor pressure of such crude oil is less than 34.5 kPa (5 psia).

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.143 Vapor Blowdown

No person shall cause or allow the emission of organic material into the atmosphere from any vapor blowdown system or any safety relief valve, except such safety relief valves not capable of causing an excessive release, unless such emission is controlled:

a) To 10 ppm equivalent methane (molecular weight 16.0) or less; or,

b) By combustion in a smokeless flare; or,

c) By other air pollution control equipment approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with Section 218.108 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.144 Safety Relief Valves

Section 218.143 of this Part shall not apply to any set of unregulated safety relief valves capable of causing excessive releases, provided the owner or operator thereof, by October 1, 1972, supplied the Agency with the following:

a) A historical record of each such set (or, if such records were unavailable, of similar sets which, by virtue of operation under similar circumstances, may reasonably have been presumed to have the same or greater frequency of excessive releases) for a three-year period immediately preceding October 1, 1972, indicating:

   1) Dates on which excessive releases occurred from each such set; and

   2) Duration in minutes of each such excessive release; and

   3) Quantities (in pounds) of mercaptans and/or hydrogen sulfide emitted into the atmosphere during each such excessive release.

b) Proof, using such three-year historical records, that no excessive release is likely to occur from any such set either alone or in combination with such excessive releases from other sets owned or operated by the same person and located within a ten-mile radius from the center point of any such set, more frequently than 3 times in any 12 month period;

c) Accurate maintenance records pursuant to the requirements of subsection (a) of this Section; and,

d) Proof, at three-year intervals, using such three-year historical records, that such set conforms to the requirements of subsection (c) of this Section.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

SUBPART E: SOLVENT CLEANING

Section 218.181 Solvent Cleaning in General

The requirements of this Subpart shall apply to all cold cleaning, open top vapor degreasing, and conveyorized degreasing operations which use volatile organic materials.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.182 Cold Cleaning

a) Operating Procedures: No person shall operate a cold cleaning degreaser unless:

1) Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;

2) The cover of the degreaser is closed when parts are not being handled; and

3) Parts are drained until dripping ceases.

b) Equipment Requirements: No person shall operate a cold cleaning degreaser unless:

1) The degreaser is equipped with a cover which is closed whenever parts are not being handled in the cleaner. The cover shall be designed to be easily operated with one hand or with the mechanical assistance of springs, counter-weights or a powered system if:

A) The solvent vapor pressure is greater than 2 kPa (15 mmHg or 0.3 psi) measured at 38°C (100°F);

B) The solvent is agitated; or

C) The solvent is heated above ambient room temperature.

2) The degreaser is equipped with a ~~facility~~device for draining cleaned parts. The drainage ~~facility~~ device shall be constructed so that parts are enclosed under the cover while draining unless:

A) The solvent vapor pressure is less than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F); or

B) An internal drainage ~~facility~~device cannot be fitted into the cleaning system, in which case the drainage ~~facility~~device may be external.

3) The degreaser is equipped with one of the following control devices if the vapor pressure of the solvent is greater than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F) or if the solvent is heated above 50°C (120°F) or its boiling point:

A) A freeboard height of 7/10 of the inside width of the tank or 91 cm (36 in), whichever is less; or

B) Any other equipment or system of equivalent emission control as approved by the Agency and further processed consistent with Section 218.108 of this Part. Such a system may include a water cover, refrigerated chiller or carbon adsorber.

4) A permanent conspicuous label summarizing the operating procedure is affixed to the degreaser; and

5) If a solvent spray is used, the degreaser is equipped with a solid fluid stream spray, rather than a fine, atomized or shower spray.

(Source: Amended at ___ Ill. Reg. ______, effective _______________ __________)

Section 218.183 Open Top Vapor Degreasing

a) Operating Requirements: No person shall operate an open top vapor degreaser unless:

1) The cover of the degreaser is closed when workloads are not being processed through the degreaser;

2) Solvent carryout emissions are minimized by:

A) Racking parts to allow complete drainage;

B) Moving parts in and out of the degreaser at less than 3.3 m/min (11 ft/min);

C) Holding the parts in the vapor zone until condensation ceases;

D) Tipping out any pools of solvent on the cleaned parts before removal from the vapor zone; and

E) Allowing parts to dry within the degreaser until visually dry.

3) Porous or absorbent materials, such as cloth, leather, wood or rope are not degreased;

4) Less than half of the degreaser's open top area is occupied with a workload;

5) The degreaser is not loaded to the point where the vapor level would drop more than 10 cm (4 in) when the workload is removed from the vapor zone;

6) Spraying is done below the vapor level only;

7) Solvent leaks are repaired immediately;

8) Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;

9) Water is not visually detectable in solvent exiting from the water separator; and

10) Exhaust ventilation exceeding 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of degreaser open area is not

used, unless necessary to meet the requirements of the Occupational Safety and Health Act (29 U.S.C. Section 651 et seq.).

b) Equipment Requirements: No person shall operate an open top vapor degreaser unless:

1) The degreaser is equipped with a cover designed to open and close easily without disturbing the vapor zone;

2) The degreaser is equipped with the following switches:

A) ~~A device~~One which shuts off the sump heat ~~source~~ if the amount of condenser coolant is not sufficient to maintain the designed vapor level; and

B) ~~A device~~One which shuts off the spray pump if the vapor level drops more than 10 cm (4 in) below the bottom condenser coil; and

C) ~~A device~~One which shuts off the sump heat source when the vapor level exceeds the design level.

3) A permanent conspicuous label summarizing the operating procedure is affixed to the degreaser;

4) The degreaser is equipped with one of the following devices:

A) A freeboard height of 3/4 of the inside width of the degreaser tank or 91 cm (36 in), whichever is less; and if the degreaser opening is greater than 1 square meter (10.8 square feet), a powered or mechanically assisted cover; or

B) Any other equipment or system of equivalent emission control as approved by the Agency and further processed consistent with Section 218.108 of this Part. Such equipment or system may include a refrigerated chiller, an enclosed design or a carbon adsorption system.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.184 Conveyorized Degreasing

a) Operating Requirements: No person shall operate a conveyorized degreaser unless:

1) Exhaust ventilation exceeding 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of area of loading and unloading opening is not used, unless necessary to meet the requirements of the Occupational Safety and Health Act (29 U.S.C. Section 651 et seq.);

2) Solvent carryout emissions are minimized by:

A) Racking parts for best drainage; and

B) Maintaining the vertical conveyor speed at less than 3.3 m/min (11 ft/min);

3) Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;

4) Solvent leaks are repaired immediately;

5) Water is not visually detectable in solvent exiting from the water separator; and

6) Downtime covers are placed over entrances and exits of conveyorized degreasers immediately afte the conveyors and exhausts are shut down and not removed until just before start-up.

b) Equipment Requirements: No person shall operate a conveyorized degreaser unless:

1) The degreaser is equipped with a drying tunnel, rotating (tumbling) basket or other equipment sufficient to prevent cleaned parts from carrying out solvent liquid or vapor;

2) The degreaser is equipped with the following switches:

A) ~~A device~~One which shuts off the sump heat source if the amount of condenser coolant is not sufficient to maintain the designed vapor level;

B) ~~A device~~One which shuts off the spray pump or the conveyor if the vapor level drops more than 10 cm (4 in) below the bottom condenser coil; and

C) ~~A device~~One which shuts off the sump heat source when the vapor level exceeds the design level~~;~~.

3) The degreaser is equipped with openings for entrances and exits that silhouette workloads so that the average clearance between the parts and the edge of the degreaser opening is less than 10 cm (4 in) or less than 10 percent of the width of the opening;

4) The degreaser is equipped with downtime covers for closing off entrances and exits when the degreaser is shut down; and

5) The degreaser is equipped with one of the following control devices, if the air/vapor interface is larger than 2.0 square meters (21.6 square feet):

A) A carbon adsorption system with ventilation greater than or equal to 15 cubic meters per minute per square meter (50 cubic feet per minute per square foot) of air/vapor area when downtime covers are open, and exhausting less than 25 ppm of solvent by volume averaged over a complete adsorption cycle; or

B) Any other equipment or system of equivalent emission control as approved by the Agency, and further processed consistent with Section 218.108 of this Part. Such equipment or system may include a refrigerated chiller.

(Source: Amended at ___ Ill. Reg. ______, effective _____________ _________)

Section 218.185 Compliance Schedule (Repealed)

~~Every owner or operator of an emission source which was previously exempt from the requirements of Subpart E of 35 Ill. Adm. Code 215 (Sections 215.182-215.184) because it satisfied the criteria in either 35 Ill. Adm. Code 215.181(a) or 35 Ill. Adm. Code 215.181(b), shall comply with the requirements of this Subpart on and after a date consistent with Section 218.106. A source which did not satisfy the criteria in either 35 Ill. Adm. Code 215.181(a) or 35 Ill. Adm. Code 215.181(b) shall comply with the requirements of this Subpart upon adoption.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ _________)

Section 218.186 Test Methods

The following test methods shall be used to demonstrate compliance with this Subpart:

a) Vapor pressures shall be determined by using the procedure specified in Section 218.110 of this Part.

b) Exhaust ventilation rates shall be determined by using the procedures specified in Section 218.105(f)(3) of this Part.

c) The performance of control devices shall be determined by using the procedures specified in Section 218.105(f) of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ____________ _________)

SUBPART F: COATING OPERATIONS

Section 218.204 Emission Limitations ~~for Manufacturing Plants~~

Except as provided in Sections 218.205, 218.207 and 218.208 of this Part, no owner or operator of a coating line shall apply at any time any coating in which the VOM content exceeds the following emission limitations for the specified coating. The following emission limitations are expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each coating applicator, except where noted. Compounds which are specifically exempted from the definition of VOM should be treated as water for the purpose of calculating the "less water" part of the coating composition. Compliance with this Subpart must be demonstrated through the applicable coating analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.211(c) of this Part except where noted. (Note: The equation presented in Section 218.206 of this Part shall be used to calculate emission limitations for determining compliance by add-on controls, credits for transfer efficiency, emissions trades and cross-line averaging.) The emission limitations are as follows:

a)	Automobile or Light-Duty Truck Coating	kg/l	lb/gal
	1) Prime coat	0.14	(1.2)

2) Primer surfacer coat ~~0.34~~1.81 (~~2.8~~15.1)

(Note: The primer surfacer coat limitation is ~~based upon a transfer efficiency of 30 percent. The use of transfer efficiency credits can be allowed only if approved by the Agency and approved by the USEPA as a SIP revision~~ in units of kg (lbs) of VOM per l (gal) of coating solids deposited. Compliance with the limitation shall be based on the daily-weighted average from an entire primer surfacer operation. Compliance shall be demonstrated in accordance with the topcoat protocol referenced in Section 218.105(b) and the recordkeeping and reporting requirements specified in Section 218.211(f). Testing to demonstrate compliance shall be performed in accordance with the topcoat protocol and a detailed testing proposal approved by the Agency and USEPA specifying the method of demonstrating compliance with the protocol. Section 218.205 does not apply to the primer surfacer limitation.)

	kg/l	lb/gal
3) Topcoat	1.81	(15.1)

(Note: The topcoat limitation is in units of kg (lbs) of VOM per l (gal) of coating solids deposited. Compliance with the limitation shall be based on the daily-weighted average ~~VOM content~~ from ~~the~~an entire topcoat operation ~~(all topcoat spray booths, flash-off areas and bake ovens)~~. Compliance shall be demonstrated in accordance with the topcoat protocol ~~for automobiles and light-duty trucks~~ referenced in Section 218.105(b) of this Part and the recordkeeping and reporting requirements specified in Section 218.211(f). Testing to demonstrate compliance shall be performed in accordance with the topcoat protocol and ~~Section 218.205 does not apply to the topcoat limitation.) At least 180 days prior to the initial compliance date, the owner or operator of a coating line subject to the topcoat limitation shall have submitted to the USEPA~~ a detailed testing proposal approved by the Agency and USEPA specifying the method of demonstrating compliance with the protocol. ~~The proposal shall have included, at a minimum, a comprehensive plan (including a rationale) for determining the transfer efficiency at each booth through the use of in-plant, or pilot testing; the selection of coatings to be tested (for the purpose of determining transfer efficiency) including the~~

~~rationale for coating groupings; and the method for determining the analytic VOM content of as applied coatings and the formulation solvent content of as applied coatings. Upon approval of the protocol by the USEPA, the source may proceed with the compliance demonstration.~~ Section 218.205 of this Part does not apply to the topcoat limitation.)

		kg/l	lb/gal
4)	Final repair coat	0.58	(4.8)

		kg/l	lb/gal
b)	Can Coating	kg/l	lb/gal
1)	Sheet basecoat and overvarnish	0.34	(2.8)
2)	Exterior basecoat and overvarnish	0.34	(2.8)
3)	Interior body spray coat	0.51	(4.2)
4)	Exterior end coat	0.51	(4.2)
5)	Side seam spray coat	0.66	(5.5)
6)	End sealing compound coat	0.44	(3.7)

		kg/l	lb/gal
c)	Paper Coating	0.35	(2.9)

(Note: The paper coating limitation shall not apply to any owner or operator of any paper coating line on which printing is performed if the paper coating line complies with the emissions limitations in Subpart H: Printing and Publishing, Section~~s~~ 218.401 of this Part ~~through 218.404~~.)

		kg/l	lb/gal
d)	Coil Coating	0.31	(2.6)
e)	Fabric Coating	0.35	(2.9)
f)	Vinyl Coating	0.45	(3.8)
g)	Metal Furniture Coating	0.36	(3.0)
h)	Large Appliance Coating	0.34	(2.8)

(Note: The limitation shall not apply to the use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided that the volume of coating does not exceed 0.95 l (1 quart) in any one rolling eight-hour period.)

		kg/l	lb/gal
i)	Magnet Wire Coating	0.20	(1.7)

j) Miscellaneous Metal Parts and Products Coating

1)	Clear coating	0.52	(4.3)
2)	Air-dried coating	0.42	(3.5)
3)	Extreme performance coating	0.42	(3.5)
4)	Steel pail and drum interior coating	(0.52)	(4.3)
~~4~~5)	All other coatings	0.36	(3.0)

		kg/l	lb/gal
k)	Heavy Off-Highway Vehicle Products Coating		
1)	Extreme performance prime coat	0.42	(3.5)
2)	Extreme performance top-coat (air dried)	0.42	(3.5)
3)	Final repair coat (air dried)	0.42	(3.5)

4) All other coatings are subject to the emission limitations for miscellaneous metal parts and products coatings in subsection (j) above.

		kg/l	lb/gal
l)	Wood Furniture Coating		
1)	Clear topcoat	0.67	(5.6)
2)	Opaque stain	0.56	(4.7)
3)	Pigmented coat	0.60	(5.0)
4)	Repair coat	0.67	(5.6)
5)	Sealer	0.67	(5.6)
6)	Semi-transparent stain	0.79	(6.6)

7)	Wash coat	0.73	(6.1)

(Note: An owner or operator of a wood furniture coating operation subject to this Section shall apply all coatings, with the exception of no more than 37.8 l (10 gal) of coating per day used for touch-up and repair operations, using one or more of the following application systems: airless spray application system, air-assisted airless spray application system, electrostatic spray application system, electrostatic bell or disc spray application system, heated airless spray application system, roller coating, brush or wipe coating application system, ~~or~~ dip coating application system <u>or high volume low pressure (HVLP) application system.)</u>

m) Existing Diesel-Electric Locomotive Coating Lines in Cook County

		kg/l	lb/gal
1)	Extreme performance prime coat	0.42	(3.5)
2)	Extreme performance top-coat (air dried)	0.42	(3.5)
3)	Final repair coat (air dried)	0.42	(3.5)
4)	High-temperature aluminum coating	0.72	(6.0)
5)	All other coatings	0.36	(3.0)

(Source: Amended at ___ Ill. Reg. ______, effective ____________ ____________)

Section 218.205 Daily-Weighted Average Limitations

No owner or operator of a coating line subject to the limitations of Section 218.204 <u>of this Part</u> and complying by means of this Section shall operate the subject coating line unless the owner or operator has demonstrated compliance with subsection (a), (b), (c), (d), (e) or (f) <u>of this Section</u> (depending upon the ~~source~~ category <u>of coating</u>) through the applicable coating analysis test methods and procedures specified in Section 218.105(a) <u>of this Part</u> and the recordkeeping and reporting requirements specified in Section 218.211(d) <u>of this Part</u>:

a) No owner or operator of a coating line subject to only one of the limitations from among Section 218.204(a)(1), ~~(a)(2),~~ (a)(4), (c), (d), (e), (f), (g), (h), or (i) of this Part shall apply coatings on any such coating line, during any day, whose daily-weighted average VOM content exceeds the emission limitation to which the coatings are subject.

b) No owner or operator of a miscellaneous metal parts and products coating line subject to the limitations of Section 218.204(j) of this Part shall apply coatings to miscellaneous metal parts or products on the subject coating line unless the requirements in subsection (b)(1) or (b)(2) below are met.

1) For each coating line which applies multiple coatings, all of which are subject to the same numerical emission limitation within Section 218.204(j) during the same day (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), the daily-weighted average VOM content shall not exceed the coating VOM content limit corresponding to the category of coating used, or

2) For each coating line which applies coatings subject to more than one numerical emission limitation ~~from more than one of the four coating categories~~ in Section 218.204(j) above, during the same day, the owner or operator shall have a site-specific proposal approved by the Agency and approved by the USEPA as a SIP revision. To receive approval, the requirements of USEPA's Emissions Trading Policy Statement (and related policy) 51 Fed. Reg. 43814 (December 4, 1986), must be satisfied.

c) No owner or operator of a can coating ~~facility~~line subject to the limitations of Section ~~215~~218.204(b) of this Part shall operate the subject coating ~~facility~~ line using a coating with a VOM content in excess of the limitations specified in Section ~~215~~218.204(b) of this Part unless all of the following requirements are met:

1) An alternative daily emission limitation shall be determined for the can coating operation, i.e. for all of the can coating lines at the source, according to subsection (c)(2) below. Actual daily emissions shall never exceed the alternative daily emission limitation and shall be calculated by use of the following equation.

$$E_d = \sum_{i=1}^{n} V_i \; C_i$$

where:

E_d = Actual VOM emissions for the day in units of kg/day (lbs/day)~~,~~;

i = Subscript denoting a specific coating applied~~,~~;

n = Total number of coatings applied in the can coating operation, i.e. all can coating lines at the source;

V_i = Volume of each coating applied for the day in units of l/day (gal/day) of coating (minus water and any compounds which are specifically exempted from the definition of VOM);

C_i = The VOM content of each coating as applied in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM).

2) The alternative daily emission limitation (A_d) shall be determined for the can coating operation, i.e. for all of the can coating lines at the source, on a daily basis as follows:

$$A_d = \sum_{i=1}^{n} V_i \; L_i \; \frac{(D_i - C_i)}{(D_i - L_i)}$$

where:

A_d = The VOM emissions allowed for the day in units of kg/day (lbs/day)~~,~~;

i = Subscript denoting a specific coating applied~~,~~;

n = Total number of surface coatings applied in the can coating operation~~,~~;

C_i = The VOM content of each surface coating as applied in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM)~~,~~;

D_i = The density of VOM in each coating applied. For the purposes of calculating ϕA_d, the density is 0.882 kg VOM/l VOM (7.36 lbs VOM/gal VOM)~~,~~;

V_i = Volume of each surface coating applied for the day in units of l (gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM)~~,~~;

L_i = The VOM emission limitation for each surface coating applied as specified in Section 218.204(b) of this Part in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM).

d) No owner or operator of a heavy off-highway vehicle products coating line subject to the limitations of Section 218.204(k) of this Part shall apply coatings to heavy off-highway vehicle products on the subject coating line unless the requirements of subsection (d)(1) or (d)(2) below are met.

1) For each coating line which applies multiple coatings, all of which are subject to the same numerical emission limitation within Section 218.204(k) above, during the same day (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), the daily-weighted average VOM content shall not exceed the coating VOM content limit corresponding to the category of coating used, or

2) For each coating line which applies coatings subject to more than one numerical emission limitation in Section 218.204(k) above, during the same day, the owner or operator shall have a site specific proposal approved by the Agency and

approved by the USEPA as a SIP revision. To receive approval, the requirements of USEPA's Emissions Trading Policy Statement (and related policy) 51 Fed. Reg. 43814 (December 4, 1986), must be satisfied.

e) No owner or operator of a wood furniture coating line subject to the limitations of Section 218.204(l) of this Part shall apply coatings to wood furniture on the subject coating line unless the requirements of subsection (e)(1) or subsection (e)(2) below, in addition to the requirements specified in the note to Section 218.204(l) of this Part, are met.

1) For each coating line which applies multiple coatings, all of which are subject to the same numerical emission limitation within Section 218.204(l) above, during the same day (e.g., all coatings used on the line are subject to 0.67 kg/l [5.6 lbs/gal]), the daily-weighted average VOM content shall not exceed the coating VOM content limit corresponding to the category of coating used, or

2) For each coating line which applies coatings subject to more than one numerical emission limitation in Section 218.204(l) above, during the same day, the owner or operator shall have a site specific proposal approved by the Agency and approved by the USEPA as a SIP revision. To receive approval, the requirements of USEPA's Emissions Trading Policy Statement (and related policy) 51 Fed. Reg. 43814 (December 4, 1986), must be satisfied.

f) No owner or operator of an existing diesel-electric locomotive coating line in Cook County, subject to the limitations of Section 218.204(m) of this Part shall apply coatings to diesel-electric locomotives on the subject coating line unless the requirements of subsection ~~(b)(1)~~ (f)(1) or ~~(b)(2)~~ (f)(2) of this Section are met.

1) For each coating line which applies multiple coatings, all of which are subject to the same numerical emission limitation within Section 218.204(m) above, during the same day (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), the daily-weighted average VOM content shall not exceed the coating VOM content limit corresponding to the category of coating used, or

2) For each coating line which applies coatings subject to more than one numerical emission limitation in Section 218.204(m) above, during the same day, the owner or operator shall have a site specific proposal approved by the Agency and approved by the USEPA as a SIP revision. To receive approval, the requirements of USEPA's Emissions Trading Policy Statement (and related policy) must be satisfied.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.206 Solids Basis Calculation

Limitations in terms of kg (lbs) of VOM emissions per l (gal) of solids as applied at each coating applicator shall be determined by the following equation:

$$S = \frac{C}{1 - (C/D)}$$

where:

S = The limitation on VOM emissions in terms of kg VOM/l (lbs VOM/gal) of solids~~,~~;

C = The limitation on VOM emissions in terms of kg/l (lbs/gal) of coating (minus water and any compounds which are specifically excluded from the definition of VOM) specified in Section 218.204~~,~~ of this Part;

D = The density of VOM in the coating. For the purposes of calculating S, the density is 0.882 kg VOM/l VOM (7.36 lbs VOM/gal VOM).

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.207 Alternative Emission Limitations

a) Any owner or operator of a coating line subject to Section 218.204 of this Part may comply with this Section, rather than with Section 218.204 of this Part, if a capture system and control device are operated at all times the coating line is in operation and the owner or operator demonstrates compliance with subsection~~s~~ (c), (d), (e), (f), (g) or (h) of this Section (depending upon the source category) through the applicable coating analysis and capture system and control device efficiency test methods and procedures specified in Section 218.105 of this Part and the recordkeeping and reporting requirements specified in Section 218.211(e) of this Part; and the control device is equipped with the applicable monitoring equipment specified in Section 218.105(d) of this Part and the monitoring equipment is installed, calibrated, operated and maintained according to vendor specifications at all times the control device is in use. A capture system and control device, which does not demonstrate compliance with subsection (c), (d), (e), (f), (g) or (h) of this Section may be used as an alternative to compliance with Section 218.204 of this Part only if the alternative is approved by the Agency and approved by the USEPA as a SIP revision.

b) Alternative Add-On Control Methodologies

1) The coating line is equipped with a capture system and control device that provides 81 percent reduction in the overall emissions of VOM from the coating line and the control device has a 90 percent efficiency, or

2) The system used to control VOM from the coating line is demonstrated to have an overall efficiency sufficient to limit VOM emissions to no more than what is allowed under Section 218.204 of this Part. Use of any control system other than an afterburner, carbon adsorption, condensation, or absorption scrubber system can be allowed only if approved by the Agency and approved by the USEPA as a SIP revision. The use of transfer efficiency credits can be allowed only if approved by the Agency and approved by the USEPA as a SIP revision. Baseline transfer efficiencies and transfer efficiency test methods must be approved by the Agency and the USEPA.

Such overall efficiency is to be determined as follows:

A) ~~o~~Obtain the emission limitation from the appropriate subsection in Section 218.204 of this Part~~,~~;

B) ~~c~~Calculate "S" according to the equation in Section 218.206 of this Part~~,~~;

C) ~~c~~Calculate the overall efficiency required according to Section 218.105(e) of this Part. For the purposes of calculating this value, according to the equation in Section

218.105(e)(2) <u>of this Part</u>, VOM_1 is equal to the value of "S" as determined above in subsection (b)(2)(B) <u>of this Section</u>.

c) No owner or operator of a coating line subject to only one of the emission limitations from among Section 218.204(a)(1), ~~(a)(2),~~ (a)(4), (c), (d), (e), (f), (g), (h) or (i) <u>of this Part</u> and equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) above are met. No owner or operator of a coating line subject to Section <u>218.204(a)(2) or</u> 218.204(a)(3) and equipped with a capture system and control device shall operate the coating line unless the owner or operator demonstrates compliance with ~~the topcoat~~ <u>such</u> limitation in accordance with the topcoat protocol ~~for automobile or light-duty trucks~~ referenced in Section 218.105(b).

d) No owner or operator of a miscellaneous metal parts and products coating line which applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(j) <u>of this Part</u> (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), and which is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) above are met.

e) No owner or operator of a heavy off-highway vehicle products coating line which applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(k) <u>of this Part</u> (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), and which is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) above are met.

f) No owner or operator of an existing diesel-electric locomotive coating line in Cook County which applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(m) <u>of this Part</u> (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), and which is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) <u>above</u> are met.

g) No owner or operator of a wood furniture coating line which applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(l) of this Part (e.g., all coatings used on the line are subject to 0.67 kg/l [5.6 lbs/gal]), and which is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met. If compliance is achieved by meeting the requirements in subsection (b)(2) of this Part, then the provisions in the note to Section 218.204(l) of this Part must also be met.

h) No owner or operator of a can coating ~~facility~~line ~~and~~ which is equipped with a capture system and control device shall operate the subject coating ~~facility~~line unless the requirements in subsection (h)(1) or (h)(2) below are met.

1) An alternative daily emission limitation shall be determined for the can coating operation, i.e. for all of the can coating lines at the source, according to Section 218.205(c)(2) of this Part. Actual daily emissions shall never exceed the alternative daily emission limitation and shall be calculated by use of the following equation:

$$E_d = \sum_{i=1}^{n} V_i \quad C_i \quad (1-F_i)$$

where:

E_d = Actual VOM emissions for the day in units of kg/day (lbs/day)~~,~~;

i = Subscript denoting the specific coating applied~~,~~;

n = Total number of surface coatings as applied in the can coating operation~~,~~;

V_i = Volume of each coating as applied for the day in units of l/day (gal/day) of coating (minus water and any compounds which are specifically exempted from the definition of VOM)~~,~~;

C_i = The VOM content of each coating as applied in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM) and

F_i = Fraction, by weight, of VOM emissions from the surface coating, reduced or prevented from being emitted to the ambient air. This is the overall efficiency of the capture system and control device.

2) The coating line is equipped with a capture system and control device that provide 75 percent reduction in the overall emissions of VOM from the coating line and the control device has a 90 percent efficiency.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.208 Exemptions From Emission Limitations

a) Exemptions for all ~~source~~coating categories except wood furniture coating. The limitations of this Subpart shall not apply to coating lines within a ~~facility~~ source, that otherwise would be subject to the same subsection of Section 218.204 (because they belong to the same ~~source~~coating category, e.g. can coating) provided that combined actual emissions of VOM from all lines at the ~~facility~~source subject to that subsection never exceed 6.8 kg/day (15 lbs/day) before the application of capture systems and control devices. (For example, can coating lines within a ~~plant~~source would not be subject to the limitations of Section 218.204(b) of this Part if the combined actual emissions of VOM from the can coating lines never exceed 6.8 kg/day (15 lbs/day) before the application of capture systems and control devices.) Volatile organic material emissions from heavy off-highway vehicle products coating lines must be combined with VOM emissions from miscellaneous metal parts and products coating lines to determine applicability. Any owner or operator of a coating ~~facility~~source shall comply with the applicable coating analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.211(a) of this Part if total VOM emissions from the subject coating lines are always less than or equal to 6.8 kg/day (15 lbs/day) before the application of capture systems and control devices and, therefore, are not subject to the limitations of Section 218.204 of this Part. Once a category of coating lines at a ~~facility~~source is subject to the limitations in Section 218.204, of this Part the coating lines are always subject to the limitations in Section 218.204 of this Part.

b) Applicability for wood furniture coating

1) The limitations of this Subpart shall apply to a ~~plant's~~source's wood furniture coating lines if the ~~plant~~source contains process emission ~~sources~~ units, not regulated by Subparts B, E, F (excluding Section 218.204(l) of this Part), H (excluding Section 218.405), Q, R, S, T (excluding Section 218.486 of this Part), V, X, Y, ~~or~~ Z or BB of this Part, which as a group both:

A) H~~h~~ave maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

B) A~~a~~re not limited to less than 91 Mg (100 tons) of VOM per calendar year if no air pollution control equipment were used, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or SIP revision.

2) If a ~~plant~~source ceases to fulfill the criteria of subsection (b)(1) of this Section, the limitations of Section 218.204(l) of this Part shall continue to apply to any wood furniture coating line which was ever subject to the limitations of Section 218.204(l) of this Part.

3) For the purposes of subsection (b) of this Section, an emission ~~source~~unit shall be considered regulated by a Subpart if it is subject to the limitations of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the appplicability criteria of the Subpart are not met. ~~its emissions are below the applicability cutoff level or if the source is covered by an exemption.~~

4) Any owner or operator of a wood furniture coating line to which the limitations of this Subpart are not applicable due to the criteria in subsection (b) of this Section shall, upon request by the Agency or the USEPA, submit records to the Agency and the USEPA within 30 calendar days from the date of the request that document that the coating line is exempt from the limitations of this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ____________ __________)

Section 218.209 Exemption From General Rule on Use of Organic Material

No owner or operator of a coating line subject to the limitations of Section 218.204 of this Part is required to meet the limitations of Subpart G (Section 218.301 or 218.302) of this Part, after the date by which the coating line is required to meet Section 218.204 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ____________ _________)

Section 218.210 Compliance Schedule

Every owner or operator of a coating line (of a type included within Section 218.204) of this Part shall comply with the requirements of Section 218.204, 218.205, 218.207 or 218.208 and Section 218.211 of this Part in accordance with the appropriate compliance schedule as specified in subsection (a), (b), (c) or (d) below:

a) No owner or operator of a coating line which is exempt from the limitations of Section 218.204 of this Part because of the criteria in Section 218.208(a) of this Part shall operate said coating line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 218.211(b) of this Part. Wood furniture coating lines are not subject to Section 218.211(b) of this Part.

b) No owner or operator of a coating line complying by means of Section 218.204 of this Part shall operate said coating line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Sections 218.204 and 218.211(c) of this Part.

c) No owner or operator of a coating line complying by means of Section 218.205 of this Part shall operate said coating line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Sections 218.205 and 218.211(d) of this Part.

d) No owner or operator of a coating line complying by means of Section 218.207 of this Part shall operate said coating line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Sections 218.207 and 218.211(e) of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.211 Recordkeeping and Reporting

a) The VOM content of each coating and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in Section 218.105 of this Part to establish the records required under this Section.

b) Any owner or operator of a coating line which is exempted from the limitations of Section 218.204 of this Part because of Section 218.208(a) of this Part shall comply with the following:

1) By a date consistent with Section 218.106 of this Part, the owner or operator of a ~~facility~~coating line or a group of coating lines referenced in ~~this~~ subsection(b) of this Section shall certify to the Agency that the ~~facility~~coating line or group of coating lines is exempt under the provisions of Section 218.108(a) of this Part. Such certification shall include:

A) A declaration that the ~~facility~~coating line or group of coating lines is exempt from the limitations of Section 218.204 of this Part because of Section 218.208(a) of this Part; and

B) Calculations which demonstrate that the combined VOM emissions from ~~all~~the coating lines ~~at the facility~~or group of coating lines never exceed 6.8 kg (15 lbs) per day before the application of capture systems and control devices. The following equation shall be used to calculate total VOM emissions:

$$T\cancel{c}_c = \sum_{j=1}^{m} \sum_{i=1}^{n} (A_i \ B_i)_j$$

where:

$T\cancel{c}_c$ = Total VOM emissions from coating lines ~~at a facility~~ each day before the application of capture systems and control devices in units of kg/day (lbs/day)~~,~~;

m = Number of coating lines at the ~~facility~~ source that otherwise would be subject to the same subsection of Section 218.104 of this Part (because they belong to the same category, e.g., can coating)~~,~~;

j = Subscript denoting an individual coating line~~,~~;

n = Number of different coatings as applied each day on each coating line ~~at the facility,~~;

i = Subscript denoting an individual coating~~,~~;

A_i = Weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line ~~at the facility~~ in units of kg VOM/l (lbs VOM/gal); and

B_i = Volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line ~~at the facility~~ in units of l/day (gal/day). The instrument or method by which the owner or operator accurately measured or calculated the volume of each coating as applied on each coating line each day shall be described in the certification to the Agency.

2) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a ~~facility~~ coating line or group of coating lines referenced in this subsection shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~source for a period of three years:

A) The name and identification number of each coating as applied on each coating line.

B) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a ~~facility~~ coating line or group of coating lines exempted from the limitations of Section 218.204 of this Part because of Section 218.208(a) of this Part shall notify the Agency of any record showing that total VOM emissions from the coating ~~facility~~line or group of coating lines exceed 6.8 kg (15 lbs) in any day before the application of capture systems and control devices by sending a copy of such record to the Agency within 30 days after the exceedance occurs.

c) Any owner or operator of a coating line subject to the limitations of Section 218.204 of this Part other than Section 218.204(a)(2) or (a)(3) and complying by means of Section 218.204 of this Part shall comply with the following:

1) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new coating line, or upon changing the method of compliance from an existing subject coating line from Section 218.205 or Section 218.207 of this Part to Section 218.204 of this Part; the owner or operator of a subject coating line shall certify to the Agency that the coating line will be in compliance with Section 218.204 of this Part on and after a date consistent with Section 218.106 of this Part, or

on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each coating as applied on each coating line.

B) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

~~c) For coating lines subject to Section 218.204(a)(3) certification shall include:~~

~~i) The name and identification number of each coating 218.204(a)(3),~~

~~ii) The name and identification number of each coating as applied on each coating line,~~

~~iii) The weight of VOM per volume of each coating as applied on each coating line,~~

~~iv) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line,~~

~~v) The method by which the owner or operator will create and maintain records each day as required in subsection (c)(2) below for coating lines subject to Section 218.204(a)(3),~~

~~vi) An example format in which the records required in subsection (c)(2) below for coating lines subject to Section 218.204(a)(3).~~

2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating line ~~subject to the limitations of Section 218.204 and complying by means of Section 218.204~~ shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~ source for a period of three years:

A) The name and identification number of each coating as applied on each coating line.

B) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

~~C) For coating lines subject to Section 218.204(a)(3) the owner or operator shall maintain all records necessary to calculate the daily-weighted average VOM content from the coating line in accordance with the proposal submitted, and proved by the USEPA, pursuant to Section 218.204(a)(3).~~

3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject coating line shall notify the Agency in the following instances:

A) Any record showing violation of Section 218.204 of this Part shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation~~, except that any record showing a violation of Section 218.204(a)(3) shall be reported by sending a copy of such record to the Agency within 15 days from the end of the month in which the violation occurred~~.

B) At least 30 calendar days before changing the method of compliance ~~with Section 218.204~~ from Section 218.204 of this Part to Section 218.205 or Section 218.207 of this Part, the owner or operator shall comply with all requirements of subsection (d)(1) or (e)(1) of this Section below, respectively. Upon changing the method of compliance ~~with Section 218.204~~ from Section 218.204 of this Part to Section 218.205 of this Part or Section 218.207 of this Part, the owner or operator shall comply with all requirements of subsection (d) or (e) of this Section, respectively.

~~C) For coating lines subject to Section 218.204(a)(3) the owner or operator shall notify the Agency of any change to the topcoating operation at least 30 days before the change is effected. The Agency shall~~

~~determine whether or not recertification testing is required. If the Agency determines that recertification testing is required, then the owner or operator shall submit a proposal to the Agency to test within 30 days and retest within 30 days of the Agency's approval of the proposal.~~

d) Any owner or operator of a coating line subject to the limitations of Section 218.204 <u>of this Part</u> and complying by means of Section 218.205 <u>of this Part</u> shall comply with the following:

1) By a date consistent with Section 218.106 <u>of this Part</u>, or upon initial start-up of a new coating line, or upon changing the method of compliance for an existing subject coating line from Section 218.204 or Section 218.207 <u>of this Part</u> to Section 218.205 <u>of this Part</u>; the owner or operator of the subject coating line shall certify to the Agency that the coating line will be in compliance with Section 218.205 <u>of this Part</u> on and after a date consistent with Section 218.106 <u>of this Part</u>, or on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each coating line which will comply by means of Section 218.205 <u>of this Part</u>.

B) The name and identification number of each coating as applied on each coating line.

C) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

D) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line.

E) The method by which the owner or operator will create and maintain records each day as required in subsection (d)(2) <u>of this Section</u>.

F) An example of the format in which the records required in subsection (d)(2) <u>of this Section</u> will be kept.

2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating line ~~subject to the limitations of Section 218.204 and complying by means of Section 218.205~~ shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~ source for a period of three years:

   A) The name and identification number of each coating as applied on each coating line.

   B) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

   C) The daily-weighted average VOM content of all coatings as applied on each coating line as defined in Section 218.104 of this Part.

3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject coating line shall notify the Agency in the following instances:

   A) Any record showing violation of Section 218.205 of this Part shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

   B) At least 30 calendar days before changing the method of compliance with this subpart from Section 218.205 of this Part to Section 218.204 or Section 218.207 of this Part, the owner or operator shall comply with all requirements of subsection (c)(1) or (e)(1) of this Section, respectively. Upon changing the method of compliance with this subpart from Section 218.205 to Section 218.204 or Section 218.207 of this Part, the owner or operator shall comply with all requirements of subsection (c) or (e) of this Section, respectively.

e) Any owner or operator of a coating line subject to the limitations of Section 218.207 of this Part and complying by means of Section 218.207(c), (d), (e), (f), (g) or (h) of this Part shall comply with the following:

1) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new coating line, or upon changing the method of compliance for an existing coating line from Section 218.204 or Section 218.205 of this Part to Section 218.207 of this Part, the owner or operator of the subject coating line shall perform all tests and submit to the Agency the results of all tests and calculations necessary to demonstrate that the subject coating line will be in compliance with Section 218.207 of this Part on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date.

2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating line ~~subject to the limitations of Section 218.207 and complying by means of Section 218.207(c), (d), (e), (f), (g), or (h)~~ shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~source for a period of three years:

   A) The weight of VOM per volume of coating solids as applied each day on each coating line, if complying pursuant to Section 218.207(b)(2) of this Part.

   B) Control device monitoring data.

   C) A log of operating time for the capture system, control device, monitoring equipment and the associated coating line.

   D) A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject coating line shall notify the Agency in the following instances:

   A) Any record showing violation of Section 218.207 of this Part shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with this Subpart from Section 218.207 of this Part to Section 218.204 or Section 218.205 of this Part, the owner or operator shall comply with all requirements of subsection (c)(1) or (d)(1) of this Section, respectively. Upon changing the method of compliance with this subpart from Section 218.207 of this Part to Section 218.204 or Section 218.205 of this Part, the owner or operator shall comply with all requirements of subsection (c) or (d) of this Section, respectively.

f) Any owner or operator of a primer surfacer operation or topcoat operation subject to the limitations of Section 218.204(a)(2) or (a)(3) of this Part shall comply with the following:

1) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new coating operation, the owner or operator of a subject coating operation shall certify to the Agency that the operation will be in compliance with Section 218.204 of this Part on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each coating operation which will comply by means of Section 218.204(a)(2) and (a)(3) of this Part and the name and identification number of each coating line in each coating operation.

B) The name and identification number of each coating as applied on each coating line in the coating operation.

C) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

D) The transfer efficiency and control efficiency measured for each coating line.

E) Test reports, including raw data and calculations documenting the testing performed to measure transfer efficiency and control efficiency.

F) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line.

G) The method by which the owner or operator will create and maintain records each day as required in subsection (f)(2) below.

H) An example format for presenting the records required in subsection (f)(2) below.

2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating operation shall collect and record all of the following information each day for each operation and maintain the information at the source for a period of three years:

A) All information necessary to calculate the daily-weighted average VOM emissions from the coating operations in kg (lbs) per l (gal) of coating solids deposited in accordance with the proposal submitted, and approved pursuant to Section 218.204(a)(2) or (a)(3) of this Part including:

i) The name and identification number of each coating as applied on each coating operation.

ii) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating operation.

B) If a control device(s) is used to control VOM emissions, control device monitoring data; a log of operating time for the capture system, control device, monitoring equipment and the associated coating operation; and a maintenance log for the capture system, control device and monitoring equipment, detailing all routine and non-routine maintenance performed including dates and duration of any outages.

3) On and after a date consistent with Section 218.106 of this Part or on and after the initial start-up date, the owner or operator of a subject coating operation shall determine and record the daily VOM emissions in kg (lbs) per 1 (gal) of coating solids deposited in accordance with the proposal submitted and approved pursuant to Section 218.204(a)(2) or (a)(3) of this Part within 10 days from the end of the month and maintain this information at the source for a period of three years.

4) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject coating operation shall notify the Agency in the following instances:

A) Any record showing a violation of Section 218.204(a)(2) or (a)(3) of this Part shall be reported by sending a copy of such record to the Agency within 15 days from the end of the month in which the violation occurred.

B) The owner or operator shall notify the Agency of any change to the operation at least 30 days before the change is effected. The Agency shall determine whether or not compliance testing is required. If the Agency determines that compliance testing is required, then the owner or operator shall submit a testing proposal to the Agency within 30 days and test within 30 days of the approval of the proposal by the Agency and USEPA.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART G: USE OF ORGANIC MATERIAL

Section 218.301 Use of Organic Material

No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission ~~source~~unit, except as provided in Sections 218.302, 218.303, 218.304 of this Part and the following exception: If no odor nuisance exists the limitation of this Subpart shall apply only to photochemically reactive material.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.302 Alternative Standard

Emissions of organic material in excess of those permitted by Section 218.301 of this Part are allowable if such emissions are controlled by one of the following methods:

a) Flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water; or,

b) A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere; or,

c) Any other air pollution control equipment approved by the Agency and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.303 Fuel Combustion Emission ~~Sources~~Units

The provisions of Sections 218.301 and 218.302 of this Part shall not apply to fuel combustion emission ~~sources~~units.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.304 Operations with Compliance Program

The provisions of Sections 218.301 and 218.302 of this Part shall not apply to any owner, operator, user or manufacturer of paint, varnish, lacquer, coatings or printing ink whose compliance program and project completion schedule, as required by 35 Ill. Adm. Code 201, provided for the reduction of organic material used in such process to 20 percent or less of total volume by May 30, 1977.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART H: PRINTING AND PUBLISHING

Section 218.401 Flexographic and Rotogravure Printing

a) No owner or operator of a subject flexographic, packaging rotogravure or publication rotogravure printing line shall apply at any time any coating or ink unless the VOM content does not exceed the limitation specified in either subsection (a)(1) or (a)(2) below. Compliance with this Section must be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.404(c) of this Part. As an alternative to compliance with this subsection, a subject printing line may meet the requirements of subsection (b) or (c) below.

1) Forty percent VOM by volume of the coating and ink (minus water and any compounds which are specifically exempted from the definition of VOM), or

2) Twenty-five percent VOM by volume of the volatile content in the coating and ink.

b) No owner or operator of a subject flexographic, packaging rotogravure or publication rotogravure printing line shall apply coatings or inks on the subject printing line unless the weighted average, by volume, VOM content of all coatings and inks as applied each day on the subject printing line does not exceed the limitation specified in either subsection (a)(1) (as determined by subsection (b)(1)) or subsection (a)(~~1~~2)) (as determined by subsection (b)(2)). Compliance with this subsection must be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.404(d) of this Part.

1) The following equation shall be used to determine if the weighted average VOM content of all coatings and inks as applied each day on the subject printing line exceeds the limitation specified in subsection (a)(1) of this Section.

$$VOM_{(i)(A)} = \frac{\sum_{i=\cancel{i}1}^{n} C_i \; L_i \; (V_{s\cancel{i}i} + V_{V\cancel{OMi}OMi})}{\sum_{i=\cancel{i}\underline{1}}^{n} L_i \; (V_{si} + V_{VOMi})}$$

Where:

$VOM_{(i)(A)}$ = The weighted average VOM content in units of percent VOM by volume of all coatings and inks (minus water and any compounds which are specifically exempted from the definition of VOM) used each day~~,~~;

i = Subscript denoting a specific coating or ink as applied~~,~~;

n = The number of different coatings and/or inks as applied each day on a printing line~~,~~;

C_i = The VOM content in units of percent VOM by volume of each coating or ink as applied (minus water and any compounds which are specifically exempted from the definition of VOM)~~,~~;

L_i = The liquid volume of each coating or ink as applied in units of l (gal)~~,~~;

V_{si} = The volume fraction of solids in each coating or ink as applied and

$V_{V\cancel{OMi}OMi}$ = The volume fraction of VOM in each coating or ink as applied.

2) The following equation shall be used to determine if the weighted average VOM content of all coatings and inks as applied each day on the subject printing line exceeds the limitation specified in subsection (a)(2) of this Section.

$$VOM_{(i)(B)} = \frac{\sum_{i=1}^{n} C_i \quad L_i \quad V_{V\cancel{Mi}Mi}}{\sum_{i=1}^{n} L_i \quad V_{VMi}}$$

where:

$VOM_{(i)(B)}$ = The weighted average VOM content in units of percent VOM by volume of the volatile content of all coatings and inks used each day~~,~~;

i = Subscript denoting a specific coating or ink as applied~~,~~;

n = The number of different coatings and/or inks as applied each day on each printing line~~,~~;

C_i = The VOM content in units of percent VOM by volume of the volatile matter in each coating or ink as applied~~,~~;

L_i = The liquid volume of each coating or ink as applied in units of l (gal) and

$V_{V\cancel{Mi}Mi}$ = The volume fraction of volatile matter in each coating or ink as applied.

c) No owner or operator of a subject flexographic, packaging rotogravure or publication rotogravure printing line equipped with a capture system and control device shall operate the subject printing line unless the owner or operator meets the requirements in subsection (c)(1), (c)(2), or (c)(3) and subsections (c)(4), (c)(5) and (c)(6) below.

1) A carbon adsorption system is used which reduces the captured VOM emissions by at least 90 percent by weight, or

2) An incineration system is used which reduces the captured VOM emissions by at least 90 percent by weight, or

3) An alternative VOM emission reduction system is used which is demonstrated to have at least a 90 percent control device efficiency, approved by the Agency and approved by USEPA as a SIP revision, and

4) The printing line is equipped with a capture system and control device that provides an overall reduction in VOM emissions of at least:

A) 75 percent where a publication rotogravure printing line is employed, or

B) 65 percent where a packaging rotogravure printing line is employed, or

C) 60 percent where a flexographic printing line is employed, and

5) The control device is equipped with the applicable monitoring equipment specified in Section 218.105(d)(2) <u>of this Part</u> and~~,~~ <u>except as provided in Section 218.105(d)(3) of this Part,</u> the monitoring equipment is installed, calibrated, operated and maintained according to vendor specifications at all times the control device is in use, and

6) The capture system and control device are operated at all times when the subject printing line is in operation. The owner or operator shall demonstrate compliance with this subsection by using the applicable capture system and control device test methods and procedures specified in Section 218.105(c) through Section 218.105(f) <u>of this Part</u> and by complying with the recordkeeping and reporting requirements specified in Section 218.404(e) <u>of this Part</u>.

(Source: Amended at ___ Ill. Reg. ______, effective ____________ __________)

Section 218.402 Applicability

a) The limitations of Section 218.401 <u>of this Part</u> apply to all flexographic and rotogravure printing lines at a subject ~~facility~~<u>source</u>. All ~~facilities~~<u>sources</u> with flexographic and/or rotogravure printing lines are subject ~~facilities~~<u>sources</u> unless:

1) Total maximum theoretical emissions of VOM from all flexographic and rotogravure printing line(s)

(including solvents used for cleanup operations associated with flexographic and rotogravure printing line(s)) at the ~~facility~~source never exceed 90.7 Mg (100 tons) per calendar year before the application of capture systems and control devices, or

2) A federally enforceable ~~construction~~ permit or SIP revision for all flexographic and rotogravure printing line(s) at a ~~facility~~source requires the owner or operator to limit production or capacity of these printing line(s) to reduce total VOM emissions from all flexographic and rotogravure printing line(s) to 90.7 Mg (100 tons) or less per calendar year before the application of capture systems and control devices.

b) Upon achieving compliance with this Subpart, the ~~emission source is~~ flexographic and rotogravure printing lines are not required to meet Subpart G (Sections 218.301 or ~~215~~218.3~~8~~02 of this Part). ~~Emission sources~~ Flexographic and rotogravure printing lines exempt from this Subpart are subject to Subpart G (Sections 218.301 or ~~215~~218.3~~8~~02 of this Part). Rotogravure or flexographic equipment used for both roll printing and paper coating is subject to this Subpart.

c) Once subject to the limitations of Section 218.401, a flexographic or rotogravure printing line is always subject to the limitations of Section 218.401 of this Part.

d) Any owner or operator of any flexographic or rotogravure printing line that is exempt from the limitations of Section 218.401 of this Part because of the criteria in this Section is subject to the recordkeeping and reporting requirements specified in Section 218.404(b) of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.403 Compliance Schedule

Every owner or operator of a flexographic and/or rotogravure printing line shall comply with the applicable requirements of Section 218.401 and Section 218.404 of this Part in accordance with the applicable compliance schedule specified in subsection (a), (b), (c) or (d) below:

a) No owner or operator of a flexographic or rotogravure printing line which is exempt from the limitations of Section 218.401 of this Part because of the criteria in Section 218.402 of this Part shall operate said printing line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 218.404(b) of this Part.

b) No owner or operator of a flexographic or rotogravure printing line complying by means of Section 218.401(a) of this Part shall operate said printing line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 218.401(a) and Section 218.404(c) of this Part.

c) No owner or operator of a flexographic or rotogravure printing line complying by means of Section 218.401(b) of this Part shall operate said printing line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 218.401(b) and Section 218.404(d) of this Part.

d) No owner or operator of a flexographic or rotogravure printing line complying by means of Section 218.401(c) of this Part shall operate said printing line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 218.401(c) and Section 218.404(e) of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.404 Recordkeeping and Reporting

a) The VOM content of each coating and ink and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in Section 218.105 of this Part to establish the records required under this Section.

b) Any owner or operator of a printing line which is exempted from the limitations of Section 218.401 of this Part because of the criteria in Section 218.402 of this Part shall comply with the following:

1) By a date consistent with Section 218.106 of this Part, the owner or operator of a ~~facility~~

flexographic and rotogravure printing line to which this subsection is applicable shall certify to the Agency that the ~~facility~~ flexographic and rotogravure printing line is exempt under the provisions of Section 218.402 of this Part. Such certification shall include:

A) A declaration that the ~~facility~~flexographic and rotogravure printing line is exempt from the limitations of the criteria in Section 218.401 of this Part because of Section 218.402 of this Part, and

B) Calculations which demonstrate that total maximum theoretical emissions of VOM from all flexographic and rotogravure printing lines at the ~~facility~~source never exceed 90.7 Mg (100 tons) per calendar year before the application of capture systems and control devices. Total maximum theoretical emissions of VOM for a flexographic or rotogravure printing ~~facility~~source is the sum of maximum theoretical emissions of VOM from each flexographic and rotogravure printing line at the ~~facility~~source. The following equation shall be used to calculate total maximum theoretical emissions of VOM per calendar year before the application of capture systems and control devices for each flexographic and rotogravure printing line at the ~~facility~~source:

$$E_p = A \times B + 1095 (C \times D \times F)$$

where:

E_p = Total maximum theoretical emissions of VOM from one flexographic or rotogravure printing line in units of kg/year (lbs/year)~~,~~;

A = Weight of VOM per volume of solids of the coating or ink with the highest VOM content as applied each year on the printing line in units of kg VOM/l (lbs VOM/gal) of coating or ink solids~~,~~; ~~and~~

B = Total volume of solids for all coatings and inks that can potentially be applied each year on the printing line in units of l/year (gal/year). The instrument and/or method by which the owner or operator accurately measured or calculated the volume of each coating and ink as applied and the amount that can potentially be applied each year on the printing line shall be described in the certification to the Agency~~.~~;

C = Weight of VOM per volume of material for the cleanup material or solvent with the highest VOM content as used each year on the printing line in units of Kg/l (lbs VOM/gal) of such material;

D = The greatest volume of cleanup material or solvent used in any 8-hour period and

F = The highest fraction of cleanup material or solvent which is not recycled or recovered for offsite disposal during any 8-hour period.

2) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a ~~facility~~ flexographic and rotogravure printing line referenced in this subsection shall collect and record all of the following information each year for each printing line and maintain the information at the ~~facility~~source for a period of three years:

A) The name and identification number of each coating and ink as applied on each printing line.

B) The VOM content and the volume of each coating and ink as applied each year on each printing line.

3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a ~~facility~~ flexographic and rotogravure printing line exempted from the limitations of Section 218.401 of this Part because of the criteria in Section 218.402 of this Part shall notify the Agency of any record showing that total maximum theoretical emissions of VOM from all printing

lines exceed 90.7 Mg (100 tons) in any calendar year before the application of capture systems and control devices by sending a copy of such record to the Agency within 30 days after the exceedance occurs.

c) Any owner or operator of a printing line subject to the limitations of Section 218.401 <u>of this Part</u> and complying by means of Section 218.401(a) <u>of this Part</u> shall comply with the following:

1) By a date consistent with Section 218.106 <u>of this Part</u>, or upon initial start-up of a new printing line, or upon changing the method of compliance from an existing subject printing line from Section 218.401(b) or Section 218.401(c) <u>of this Part</u> to Section 218.401(a) <u>of this Part</u>, the owner or operator of a subject printing line shall certify to the Agency that the printing line will be in compliance with Section 218.401(a) <u>of this Part</u> on and after a date consistent with Section 218.106 <u>of this Part</u>, or on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each coating and ink as applied on each printing line.

B) The VOM content of each coating and ink as applied each day on each printing line.

2) On and after a date consistent with Section 218.106 <u>of this Part</u>, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of Section 218.401 <u>of this Part</u> and complying by means of Section 218.401(a) <u>of this Part</u> shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~<u>source</u> for a period of three years:

A) The name and identification number of each coating and ink as applied on each printing line.

B) The VOM content of each coating and ink as applied each day on each printing line.

3) On and after a date consistent with Section 218.106 <u>of this Part</u>, the owner or operator of a subject printing line shall notify the Agency in the following instances:

A) Any record showing violation of Section 218.401(a) of this Part shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Section 218.401 of this Part from Section 218.401(a) of this Part to Section 218.401(b) or (c) of this Part, the owner or operator shall comply with all requirements of subsection ~~(b)(1) or (c)(1)~~(d)(1) or (e)(1) of this Section, respectively. Upon changing the method of compliance with Section 218.401 of this Part from Section 218.401(a) of this Part to Section 218.401(b) or (c) of this Part, the owner or operator shall comply with all requirements of subsection ~~(b)~~(d) or ~~(c)~~(e) of this Section, respectively.

d) Any owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(b) shall comply with the following:

1) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing subject printing line from Section 218.401(a) or (c) of this Part to Section 218.401(b) of this Part, the owner or operator of the subject printing line shall certify to the Agency that the printing line will be in compliance with Section 218.401(b) of this Part on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each printing line which will comply by means of Section 218.401(b) of this Part.

B) The name and identification number of each coating and ink available for use on each printing line.

C) The VOM content of each coating and ink as applied each day on each printing line.

D) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating and ink as applied each day on each printing line.

E) The method by which the owner or operator will create and maintain records each day as required in subsection ~~(b)~~(d)(2) of this Section.

F) An example of the format in which the records required in subsection ~~(b)~~(d)(2) of this Section will be kept.

2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(b) of this Part shall collect and record all of the following information each day for each printing line and maintain the information at the ~~facility~~source for a period of three years:

A) The name and identification number of each coating and ink as applied on each printing line.

B) The VOM content and the volume of each coating and ink as applied each day on each printing line.

C) The daily-weighted average VOM content of all coatings and inks as applied on each printing line.

3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject printing line shall notify the Agency in the following instances:

A) Any record showing violation of Section 218.401(b) of this Part shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Section 218.401 of this Part from Section 218.401(b) of this Part to Section 218.401(a) or 218.401(c) of this Part, the owner or operator shall comply with all requirements of subsection (c)(1) or (e)(1) of this Section, respectively. Upon changing the method of compliance with Section 218.401 of this Part from Section 218.401(b) of this Part to Section 218.401(a) or (c) of this Part, the owner or operator shall comply with all requirements of subsection (c) or (e) of this Section, respectively.

e) Any owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(c) of this Part shall comply with the following:

1) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing printing line from Section 218.401(a) or (b) of this Part to Section 218.401(c) of this Part, the owner or operator of the subject printing line shall perform all tests and submit to the Agency the results of all tests and calculations necessary to demonstrate that the subject printing line will be in compliance with Section 218.401(c) of this Part on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date.

2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(c) of this Part shall collect and record all of the following information each day for each printing line and maintain the information at the facility for a period of three years:

A) Control device monitoring data.

B) A log of operating time for the capture system, control device, monitoring equipment and the associated printing line.

C) A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a

subject printing line shall notify the Agency in the following instances:

A) Any record showing violation of Section 218.401(c) <u>of this Part</u>, shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Section 218.401 <u>of this Part</u> from Section 218.401(c) <u>of this Part</u> to Section 218.401(a) or (b) <u>of this Part</u>, the owner or operator shall comply with all requirements of subsection (c)(1) or (d)(1) <u>of this Section</u>, respectively. Upon changing the method of compliance with Section 218.401 <u>of this Part</u> from Section 218.401(c) <u>of this Part</u> to Section 218.401(a) or (b) <u>of this Part</u>, the owner or operator shall comply with all requirements of subsection (c) or (d) <u>of this Section</u>, respectively.

(Source: Amended at ___ Ill. Reg. ______, effective ____________ __________)

Section 218.405 Heatset-Web-Offset Lithographic Printing

a) Applicability

1) The limitations of subsection (b) below apply to all heatset-web-offset lithographic printing lines <u>(including solvents used for cleanup operations associated with the heatset-web-offset lithographic printing line(s))</u> at a subject ~~facility~~<u>source</u>. All ~~facilities~~ <u>sources</u> with heatset-web-offset lithographic printing lines are subject ~~facilities~~<u>sources</u> unless:

A) Total maximum theoretical emissions of VOM from all heatset-web-offset lithographic printing lines <u>(including solvents used for cleanup operations associated with the heatset-web-offset lithographic printing line(s))</u> at the ~~facility~~<u>source</u> never exceed 90.7 Mg (100 tons) per calendar year in the absence of air pollution control equipment, or

B) A federally enforceable ~~construction~~ permit or SIP revision for all heatset-web-offset lithographic printing line(s) at a ~~facility~~ source requires the owner or operator to limit production or capacity of these printing line(s) to reduce total VOM emissions from all heatset-web-offset lithographic printing line(s) to 90.7 Mg (100 tons) per calendar year or less in the absence of air pollution control equipment, and

2) Any owner or operator of any heatset-web-offset lithographic printing line that is exempt from the limitations in subsection (b) of this Section because of the criteria in subsection (a)(1) of this Section shall be subject to the recordkeeping and reporting requirements in subsection (c)(1) of this Section.

b) Specific Provisions. No owner or operator of a subject heatset-web-offset printing line may cause or allow the operation of the subject heatset-web-offset printing line unless the owner or operator meets the requirements in subsection (b)(1) or (b)(2) and the requirements in subsections (b)(3) and (b)(4) below.

1) An afterburner system is installed and operated that reduces 90 percent of the VOM emissions from the dryer exhaust, or

2) The fountain solution contains no more than 8 percent, by weight, of VOM and a condensation recovery system is installed and operated that removes at least 75 percent of the non-isopropyl alcohol organic materials from the dryer exhaust, and

3) The control device is equipped with the applicable monitoring equipment specified in Section 218.105(d)(2) of this Part and the monitoring equipment is installed, calibrated, operated and maintained according to vendor specifications at all times the control device is in use, and

4) The control device is operated at all times when the subject printing line is in operation. The owner or operator shall demonstrate compliance with this Section by using the applicable test methods and procedures specified in Section 218.105(a), (d), and (f) of this Part and by

complying with the recordkeeping and reporting requirements specified in subsection (c) below.

c) Recordkeeping and Reporting. The VOM content of each fountain solution and ink and the efficiency of each control device shall be determined by the applicable test methods and procedures specified in Section 218.105 <u>of this Part</u> to establish the records required under this subsection.

1) Any owner or operator of a printing line which is exempted from the limitations of subsection (b) <u>of this Section</u> because of the criteria in subsection (a) <u>of this Section</u> shall comply with the following:

A) By a date consistent with Section 218.106 <u>of this Part</u>, the owner or operator of a ~~facility~~ <u>heatset- web-offset lithographic printing line</u> to which subsection (c)(1) <u>of this Section</u> is applicable shall certify to the Agency that the ~~facility~~ <u>heatset-web-offset lithographic printing line</u> is exempt under the provisions of subsection (a) <u>of this Section</u>. Such certification shall include:

i) A declaration that the ~~facility~~ <u>heatset-web-offset lithographic printing line</u> is exempt from the limitations of subsection (b) <u>of this Section</u> because of the criteria in subsection (a) <u>of this Section</u>, and

ii) Calculations which demonstrate that total maximum theoretical emissions of VOM from all heatset-web-offset lithographic printing lines at the ~~facility~~<u>source</u> never exceed 90.7 Mg (100 tons) per calendar year before the application of air pollution control equipment. Total maximum theoretical emissions of VOM for a heatset-web-offset lithographic printing ~~facility~~ <u>source</u> is the sum of maximum theoretical emissions of VOM from each heatset-web-offset lithographic printing line at the ~~facility~~<u>source</u>. The following equation shall be used to calculate total maximum theoretical emissions of VOM per calendar year in the absence of air pollution control equipment for each heatset-web-offset lithographic printing line at the ~~facility~~source.

$$E_p = (A \times B) + \frac{(C \times D)+1095\ (F \times G \times H)}{100}$$

where:

E_p = Total maximum theoretical emissions of VOM from one heatset-web-offset printing line in units of kg/year (lbs/year)~~,~~;

A = Weight of VOM per volume of solids of ink with the highest VOM content as applied each year on the printing line in units of kg VOM/l (lbs VOM/gal) of solids~~, and~~;

B = Total volume of solids for all inks that can potentially be applied each year on the printing line in units of l/year (gal/year). The instrument or method by which the owner or operator accurately measured or calculated the volume of each ink as applied and the amount that can potentially be applied each year on the printing line shall be described in the certification to the Agency~~,~~;

C = The weight percent VOM of the fountain solution with the highest VOM content~~,~~;

D = The total volume of fountain solution that can potentially be used each year on the printing line in units of l/year (gal/year). The instrument and/or method by which the owner or operator accurately measured or calculated the volume of each fountain solution used and t amount that can potentially be used each year on the printing line shall be described in the certification to the Agency~~.~~;

F = Weight of VOM per volume of material for the cleanup material or solvent with the highest VOM content as used each year on the printing line in units of Kg/l (lbs VOM/gal) of such material;

G = The greatest volume of cleanup material or solvent used in any 8-hour period and

H = The highest fraction of cleanup material or solvent which is not recycled or recovered for offsite disposal during any 8-hour period.

B) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a ~~facility~~heatset-web-offset lithographic printing line to which subsection (c)(1) of this Section is applicable shall collect and record all of the following information each year for each printing line and maintain the information at the ~~facility~~source for a period of three years:

i) The name and identification of each fountain solution and ink as applied on each printing line.

ii) The VOM content and the volume of each fountain solution and ink as applied each year on each printing line.

C) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a ~~facility~~source exempted from the limitations of subsection (b) of this Section because of the criteria in subsection (a) of this Section shall notify the Agency of any record showing that total maximum theoretical emissions of VOM from all printing lines exceed 90.7 Mg (100 tons) in any calendar year in the absence of air pollution control equipment by sending a copy of such record to the Agency within 30 days after the exceedance occurs.

2) Any owner or operator of a printing line subject to the limitations of subsection (b) of this Section and complying by means of subsection (b)(1) of this Section shall comply with the following:

A) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing printing line from subsection (b)(2) to subsection (b)(1) of this Section; the owner or operator of the subject printing line shall perform all tests and submit to the Agency the results of all tests and calculations necessary to demonstrate that the subject printing line will be in compliance with subsection (b)(1) of this Section on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date.

B) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of subsection (b) of this Section and complying by means of subsection (b)(1) of this Section shall collect and record the following information each day for each printing line and maintain the information at the ~~facility~~source for a period of three years:

i) Control device monitoring data.

ii) A log of operating time for the control device, monitoring equipment and the associated printing line.

iii) A maintenance log for the control device and monitoring equipment detailing all routine and nonroutine maintenance performed including dates and duration of any outages.

C) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject printing line shall notify the Agency in the following instances:

i) Any record showing violation of subsection (b)(1) <u>of this Section</u> shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

ii) At least 30 calendar days before changing the method of compliance with subsection (b) <u>of this Section</u> from subsection (b)(1) to (b)(2) <u>of this Section</u>, the owner or operator shall comply with all requirements of subsection (c)(3)(A) <u>of this Section</u>. Upon changing the method of compliance with subsection (b) <u>of this Section</u> from subsection (b)(1) to (b)(2) <u>of this Section</u>, the owner or operator shall comply with all requirements of subsection (c)(3) <u>of this Section</u>.

3) Any owner or operator of a printing line subject to the limitations of subsection (b) <u>of this Section</u> and complying by means of subsection (b)(2) <u>of this Section</u> shall comply with the following:

A) By a date consistent with Section 218.106 <u>of this Part</u>, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing printing line from subsection (b)(1) to (b)(2) <u>of this Section</u>; the owner or operator of the subject printing line shall perform all tests and submit to the Agency and the USEPA the results of all tests and calculations necessary to demonstrate that the subject printing line will be in compliance with subsection (b)(2) <u>of this Section</u> on and after a date consistent with Section 218.106 <u>of this Part</u>, or on and after the initial start-up date.

B) On and after a date consistent with Section 218.106 <u>of this Part</u>, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of subsection (b) <u>of this Section</u> and complying by means of subsection (b)(2) <u>of this Section</u> shall collect and record the following information each day for each printing line and maintain the information at the ~~facility~~source for a period of three years:

i) The VOM content of the fountain solution used each day on each printing line.

ii) A log of operating time for the control device and the associated printing line.

iii) A maintenance log for the control device detailing all routine and non-routine maintenance performed including dates and duration of any outages.

C) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject printing line shall notify the Agency in the following instances:

i) Any record showing violation of subsection (b)(2) shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

ii) At least 30 calendar days before changing the method of compliance with subsection (b) of this Section from subsection (b)(2) to (b)(1) of this Section, the owner or operator shall comply with all requirements of subsection (c)(2)(A) of this Section. Upon changing the method of compliance with subsection (b) of this Section from subsection (b)(2) to (b)(1) of this Section, the owner or operator shall comply with all requirements of subsection (c)(2) of this Section.

d) Compliance Schedule. Every owner or operator of a heatset-web-offset lithographic printing line shall comply with the applicable requirements of subsections (b) and (c) of this Section in accordance with the applicable compliance schedule specified in subsection (d)(1), (d)(2), or (d)(3) below:

1) No owner or operator of a heatset-web-offset lithographic printing line which is exempt from the limitations of subsection (b) of this Section because of the criteria in subsection (a) of this Section shall operate said printing line on or after a date consistent with Section 218.106 of

this Part, unless the owner or operator has complied with, and continues to comply with, subsection ~~(b)~~ (a)(1) and (c)(1) of this Part.

2) No owner or operator of a heatset-web-offset lithographic printing line complying by means of subsection (b)(1) of this Section shall operate said printing line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, subsection ~~(b)(2)~~ (b)(1), (b)(3), (b)(4) and (c)(2) of this Section.

3) No owner or operator of a heatset-web-offset lithographic printing line complying by means of subsection (b)(2) of this Section shall operate said printing line on or after a date consistent with Section 218.106 of this Part, unless the owner or operator has complied with, and continues to comply with, subsection (b)(2), (b)(3), (b)(4) and (c)(3) of this Section.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART Q: LEAKS FROM SYNTHETIC ORGANIC CHEMICAL AND POLYMER MANUFACTURING ~~EQUIPMENT~~ PLANT

Section 218.421 General Requirements

The owner or operator of a plant which processes more than 3660 mg/yr (4033 tons/year) gaseous and light liquid VOM, and whose components are used to manufacture the synthetic organic chemicals or polymers listed in Appendix A, shall comply with this Subpart. The provisions of this Subpart are applicable to components containing 10 percent or more by weight VOM as determined by ASTM method E-168, E-169 and E-260, incorporated by reference in Section 218.112 of this Part. Those components that are not process unit components are exempt from this Subpart. A component shall be considered to be leaking if the VOM is equal to, or is greater than 10,000 ppmv as methane or hexane as determined by USEPA Reference Method 21, as specified at 40 CFR 60, Appendix A, incorporated by reference in Section 218.112 of this Part, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed. The provisions of this Subpart are not applicable if the equipment components are used to produce heavy liquid chemicals only from heavy liquid feed or raw materials.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.422 Inspection Program Plan for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 218.421 of this Part shall prepare an inspection program plan which contains, at a minimum:

a) An identification of all components and the period in which each will be monitored pursuant to Section 218.423 of this Part.

b) The format for the monitoring log required by Section 218.425 of this Part.

c) A description of the monitoring equipment to be used when complying with Section 218.423 of this Part; and

d) A description of the methods to be used to identify all pipeline valves, pressure relief valves in gaseous service, all leaking components, and components exempted under Section 218.423~~(i)~~(j) of this Part such that they are obvious and can be located by both plant personnel performing monitoring and Agency personnel performing inspections.

(Source: Amended at ___ Ill. Reg. ______, effective___________)

Section 218.423 Inspection Program for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to this ~~s~~Subpart shall, for the purposes of detecting leaks, conduct a component inspection program using the test methods specified in Method 21, 40 CFR 60, Appendix A (1986), incorporated by reference in Section 218.112 of this Part, consistent with the following provisions:

a) Test annually those components operated near extreme temperature or pressure such that they would be unsafe to routinely monitor and those components which would require the elevation of monitoring personnel higher than two meters above permanent worker access structures or surfaces.

b) Test quarterly all other pressure relief valves in gas service, pumps in light liquid service, valves in light liquid service and in gas service, and compressors.

c) If less than or equal to 2 percent of the valves in light liquid service and in gas service tested pursuant to subsection (b) of this Section are found ~~not~~ to leak for five consecutive quarters, no leak tests shall be required for three consecutive quarters. Thereafter, leak tests shall resume for the next quarter. If that test shows less than or equal to 2 percent of the valves in light liquid service and in gas service are leaking, then no tests are required for the next three quarters. If more than 2 percent are leaking, then tests are required for the next five quarters.

d) Observe visually all pump seals weekly.

e) Test immediately any pump seal from which liquids are observed dripping.

f) Test any relief valve within 24 hours after it has vented to the atmosphere.

g) Routine instrument monitoring of valves which are not externally regulated, flanges, and equipment in heavy liquid service, is not required. However, any valve which is not externally regulated, flange or piece of equipment in heavy liquid service that is found to be leaking on the basis of sight, smell or sound shall be repaired as soon as practicable but no later than 30 days after the leak is found.

h) Test immediately after repair any component that was found leaking.

i) Within one hour of its detection, a weatherproof, readily visible tag, in bright colors such as red or yellow, bearing an identification number and the date on which the leak was detected must be affixed on the leaking component and remain in place until the leaking component is repaired.

j) The following components are exempt from the monitoring requirements in this Section:

1) Any component that is in vacuum service, and

2) Any pressure relief valve that is connected to an operating flare header or vapor recovery device.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.424 Repairing Leaks

All leaking components must be repaired and retested as soon as practicable but no later than 15 days after the leak is found unless the leaking component cannot be repaired until the process unit is shut down. Records of repairing and retesting must be maintained in accordance with Section 218.425 and 218.426 <u>of this Part</u>.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.425 Recordkeeping for Leaks

a) The owner or operator of a synthetic organic chemical or polymer manufacturing plant shall maintain a leaking components monitoring log which shall contain, at a minimum, the following information:

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

2) The type of component (e.g., valve, seal);

3) The identification number of the component;

4) The date on which a leaking component is discovered;

5) The date on which a leaking component is repaired;

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

7) A record of the calibration of the monitoring instrument;

8) The identification number of leaking components which cannot be repaired until process unit shutdown; and

9) The total number of valves in light liquid service and in gas service inspected; the total number and the percentage of these valves found leaking during the monitoring period.

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

c) Copies of the monitoring log shall be made available to the Agency, upon verbal or written request, prior to or at the time of inspection pursuant to Section 4(d) of the Environmental Protection Act (Act) (Ill. Rev. Stat. 19~~89~~91, ch. 111 1/2, pars. 1001 et seq.) [415 ILCS 5/1 et seq.] at any reasonable time.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.426 Report for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 218.421 through 218.430 of this Part shall:

a) Submit quarterly reports to the Agency on or before March 31, June 30, September 30, and December 31 of each year, listing all leaking components identified pursuant to Section 218.423 of this Part but not repaired within 15 days, all leaking components awaiting process unit shutdown, the total number of components inspected, the type of components inspected, and the total number of components found leaking, the total number of valves in light liquid service and in gas service inspected and the number and percentage of valves in light liquid service and in gas service found leaking.

b) Submit a signed statement with the report attesting that all monitoring and repairs were performed as required under Section 218.421 through 218.427 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.427 Alternative Program for Leaks

The Agency shall approve an alternative program of monitoring, recordkeeping, or reporting to that prescribed in this Subpart upon a demonstration by the owner or operator of such plant that the alternative program will provide ~~plant~~source personnel and Agency personnel with an equivalent ability to identify and repair leaking components. Any alternative program can be allowed if approved by the Agency and approved by the USEPA as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.428 Open-Ended Valves

a) Each open-ended valve shall be equipped with a cap, blind flange, plug, or a second valve, except during operations requiring fluid flow through the open-ended valve.

b) Each open-ended valve equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

c) Components which are open-ended valves and which serve as a sampling connection shall be controlled such that they comply with subsection(c)(1), (c)(2) or (c)(3) below. This requirement does not apply to in-situ sampling systems.~~:~~

1) A closed purge system or closed vent system shall return purged process fluid to the process line with no detectable VOM emissions to the atmosphere, or

2) A closed purge system or closed vent system shall collect and recycle purged process fluid to the process line with no detectable VOM emissions to the atmosphere, or

3) Purged process fluid shall be transported to a control device that complies with the requirements of Section 218.429 of this Part. If a container is used to transport purged process fluid to the control device, the container shall be a closed container designed and used to reduce the VOM emissions vented from purged process fluid after transfer to no detectable VOM emissions as determined by USEPA Reference Method 21, as specified in 40 CFR 60, Appendix A (1990 or 1991) incorporated by reference in Section 218.112 of this Part. For purposes of this Section, the phrase "after transfer" shall refer to the time at which the entire amount of purged process fluid resulting from a flushing or cleaning of the sample line enters the container, provided, however, that purged process fluid may be transferred from the initial container to another closed container prior to disposal, e.g., to a bulk waste storage container.

~~d) In-situ sampling systems are exempt from subsection (c).~~

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.429 Standards for Control Devices

Control devices used to comply with Section 218.428(c) of this Part shall comply with the following:

a) If the control device is a vapor recovery system (for example, condensers and adsorbers), it shall be designed and operated to recover the VOM emissions vented to it with an efficiency of 95 percent or greater.

b) If the control device is an enclosed combustion device, it shall be designed and operated to reduce the VOM emissions vented to it with an efficiency of 95 percent or greater, or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816°C.

c) If the control device is a flare, it shall:

1) Be designed for and operated with no visible emissions as determined by USEPA Reference Method 22, 40 CFR 60, Appendix A (1986), incorporated by reference in Section 218.112, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

2) Be operated with a pilot flame present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame.

3) Be steam-assisted, air assisted, or nonassisted.

4) Be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be calculated using the following equation:

$$H_r = K \sum_{i=1}^{n} C_i H_i$$

Where:

H_r = Net heating value of the sample in MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C~~.~~;

K = Constant, 1.740×10^{-7} (1/ppm)(g-mole/scm)(MJ/Kcal)

where

standard temperature for (g-mole/scm) is 20°C~~.~~;

C_i = Concentration of sample component i, in ppm, as measured by USEPA Reference Method 18, 40 CFR 60, Appendix A (1986), and ASTM D 2504-83, both incorporated by reference in Section 218.112~~.~~;

H_i = Net heat of combustion of sample component i, kcal/g mole. The heats of combustion may be determined using ASTM D 2382-83, incorporated by reference in Section 218.112 of this Part, if published values are not available or cannot be calculated.

5) Steam-assisted and nonassisted flares shall be designed and operated with an exit velocity, as determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by USEPA Reference Method 2 or 2A, 40 CFR 60, Appendix A (1986) incorporated by reference in Section 218.112 of this Part, as appropriate; by the unobstructed (free) cross sectional area of the flare tip, less than 18 m/sec (60 ft/sec).

6) Air-assisted flares shall be designed and operated with an exit velocity less than the maximum permitted velocity, V_{max}, as determined by the following equation:

V_{max} = $8.706 + 0.7084(H_r)$~~.~~;

V_{max} = Maximum permitted velocity, m/see.;

8.706 = Constant~~.~~;

0.7084 = Constant~~.~~;

H_r = The net heating value as determined in subsection (c)(4) of this section.

d) ~~If the control device is a closed container, it shall be designed and operated to reduce the VOM emissions, vented from purged process fluid after transfer, to no~~

~~detectable VOM emissions as determined by USEPA Reference Method 21 as specified at 40 CFR 60, Appendix A (1986), incorporated by reference in Section 218.112. For purposes of this Section, the phrase "after transfer" shall refer to the time at which the entire amount of purged process fluid resulting from a flushing or cleaning of the sample line enters the closed container or containers including the final container(s) prior to disposal.~~ The following information pertaining to closed vent systems and control devices subject to Section 218.429 shall be maintained by the owner or operator. These records shall be updated as necessary to describe current operation and equipment. The records shall be retained at a readily accessible location at the source for a minimum of two years after the control device is permanently shutdown.

1) Detailed schematics, design specifications, and piping and instrumentation diagrams;

2) The dates and description of any changes in design specifications;

3) A description of the parameter or parameters monitored and recorded as required in subsection (f)(1) to ensure that the control devices are operated and maintained in conformance with their design and an explanation why that parameter (or parameters) was selected for monitoring.

~~e)~~ ~~The owner or operator of a control device shall monitor the control device to ensure that it is operated and maintained in conformance with the manufacturer's specifications, modified to the particular process design.~~

~~f~~e) The control device shall be operated at all times when emissions may be vented to it.

f) Owners and operators of control devices used to comply with this Subpart shall monitor each control device to ensure that the control device is operated and maintained in conformance with its designs at all times that emissions may be vented to it. This monitoring shall be conducted in accordance with Section 218.429(d)(3). The records prepared as part of this monitoring activity shall include the dates of startup and shutdown of control devices and identify periods when the devices are not operated as designed, including periods when a flare pilot light does not have a flame.

g) The requirements of subsections (d), (e) and (f) shall not apply to a combustion device located at the source used for disposal of purged process fluid which is subject to the Burning of Hazardous Waste in Boilers and Industrials Furnaces (BIF) rules, 40 CFR Parts 260, 261, 264, 265, 266, and 270, or which is subject to the Resource Conservation and Recovery Act (RCRA) rules, 35 Ill. Adm. Code Parts 703, 720, 721, 724, 725, and 726. The owner or operator of such combustion device shall satisfy applicable provisions of the RCRA or BIF rules.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.430 Compliance Date (Repealed)

~~The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to 35 Ill. Adm. Code 215.430 through 215.438 as of December 31, 1987 shall have complied with the standards and limitations of those Sections no later than December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ _________)

SUBPART R: PETROLEUM REFINING AND RELATED INDUSTRIES; ASPHALT MATERIALS

Section 218.441 Petroleum Refinery Waste Gas Disposal

a) Except as provided in subsection (b) or (c) of this Section, no person shall cause or allow the discharge of organic materials in excess of 100 ppm equivalent methane (molecular weight 16.0) into the atmosphere from:

1) Any catalyst regenerator of a petroleum cracking system; or

2) Any petroleum fluid coker; or

3) Any other waste gas stream from any petroleum or petrochemical manufacturing process.

b) Exception. Existing sources subject to subsection (a)(3) of this Section may, alternatively, at their election, comply with the organic material emission limitations imposed by 35 Ill. Adm. Code 218~~5~~.301 or 218~~5~~.302; provided, however, that there shall be no increase in emissions from such sources above the level of emissions in existence on May 3, 1979.

c) New Sources. Sources subject to subsection (a)(3) of this Section, construction of which commenced on or after January 1, 1977, may, at their election, comply with the following emission limitations:

1) A maximum of eight pounds per hour of organic material; or

2) Emission of organic material in excess of the limitation of subsection (c)(1) of this Section is allowable if such emissions are controlled by air pollution control methods or equipment approved by the Agency capable of reducing by 85 percent or more the uncontrolled organic material that would otherwise be emitted to the atmosphere. Such methods or equipment must be approved by the Agency and approved by the USEPA as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.443 Wastewater (Oil/Water) Separator

No owner or operator of a petroleum refinery shall operate any wastewater (oil/water) separator at a petroleum refinery unless the separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. If no odor nuisance exists, the limitation of this Section shall not apply if the vapor pressure of the organic material is below 10.34 kPa (1.5 psia) at 29~~0~~4.3°K (70°F) at all times.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.445 Leaks: General Requirements

~~a)~~The owner or operator of a petroleum refinery shall:

~~1~~a) Develop a monitoring program plan consistent with the provisions of Section 218.446;

~~2~~b) Conduct a monitoring program consistent with the provisions of Section 218.447;

~~3~~c) Record all leaking components which have a volatile organic material concentration exceeding 10,000 ppm consistent with the provisions of Section 218.448;

~~4~~d) Identify each component consistent with the monitoring program plan submitted pursuant to Section 218.446;

~~5~~e) Repair and retest the leaking components as soon as possible within 22 days after the leak is found, but no later than June 1 for the purposes of Section 218.447(a)(1), unless the leaking components cannot be repaired until the unit is shut down for turnaround; and

~~6~~f) Report to the Agency consistent with the provisions of Section 218.449.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.446 Monitoring Program Plan for Leaks

The owner or operator of a petroleum refinery shall prepare a monitoring program plan which contains, at a minimum:

a) An identification of all refinery components and the period in which each will be monitored pursuant to Section 218.447 of this part;

b) The format for the monitoring log required by Section 218.448 of this part;

c) A description of the monitoring equipment to be used pursuant to Section 218.447 of this part; and

d) A description of the methods to be used to identify all pipeline valves, pressure relief valves in gaseous service and all leaking components such that they are obvious to both refinery personnel performing monitoring and Agency personnel performing inspections.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 218.447 Monitoring Program for Leaks

a) The owner or operator of a petroleum refinery subject to Section 218.445 of this Part shall, for the purpose of detecting leaks, conduct a component monitoring program consistent with the following provisions:

1) Test once between March 1 and June 1 of each year, by methods referenced in Section 218.105(g) of this Part, all pump seals, pipeline valves in liquid service and process drains~~.~~;

2) Test once each quarter of each calendar year, by methods referenced in Section 218.105(g) of this Part, all pressure relief valves in gaseous

service, pipeline valves in gaseous service and compressor seals~~,~~;

3) Inaccessible valves may be tested once each calendar year instead of once each quarter of each calendar year~~,~~;

4) Observe visually all pump seals weekly~~,~~;

5) Test immediately any pump seal from which liquids are observed dripping~~,~~;

6) Test any relief valve within 24 hours after it has vented to the atmosphere~~,~~; and

7) Test immediately after repair any component that was found leaking.

b) Storage tank valves and pressure relief devices connected to an operating flare header or vapor recovery device are exempt from the monitoring requirements in subsection (a) of this Section.

c) The Agency or the USEPA may require more frequent monitoring than would otherwise be required by subsection (a) for components which are demonstrated to have a history of leaking.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.449 Reporting for Leaks

The owner or operator of a petroleum refinery shall:

a) Submit a report to the Agency prior to the 1st day of both July and September listing all leaking components identified pursuant to Section 218.447 of this Part but not repaired within 22 days, all leaking components awaiting unit turnaround, the total number of components inspected and the total number of components found leaking;

b) Submit a signed statement with the report attesting that all monitoring and repairs were performed as required under Sections 218.445 through 218.448 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.450 Alternative Program for Leaks

The Agency may approve an alternative program of monitoring, recordkeeping or reporting to that prescribed in Sections 218.446 through 218.449 of this Part upon a demonstration by the owner or operator of a petroleum refinery that the alternative program will provide refinery, Agency and USEPA personnel with an equivalent ability to identify and repair leaking components. Any alternative program can be allowed only if approved by the USEPA as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.452 Compliance Schedule for Leaks

The owner or operator of a petroleum refinery shall adhere to the increments of progress contained in the following schedule:

a) Have submitted to the ~~USEPA~~Agency a monitoring program consistent with Section 218.446 of this Part prior to September 1, 1990.

b) Have submitted to the ~~USEPA~~Agency the first monitoring report pursuant to Section 218.449 of this Part prior to October 1, 1990.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.453 Compliance Dates (Repealed)

~~Every owner or operator of a petroleum refinery subject to 35 Ill. Adm. Code 215, Subpart R as of December 31, 1987 shall have complied with its standards and limitations by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART S: RUBBER AND MISCELLANEOUS PLASTIC PRODUCTS

Section 218.461 Manufacture of Pneumatic Rubber Tires

The owner or operator of an undertread cementing, treadend cementing or bead dipping operation at a pneumatic rubber tire manufacturing ~~facility~~source shall install and operate:

a) A capture system, with minimum capture efficiency of 65 percent by weight of VOM for treadend cementing or bead dipping operations and a capture system with a minimum capture efficiency of 55.5 percent by weight of VOM for undertread cementing; and

b) A control device that meets the requirements of one of the following:

1) A carbon adsorption system designed and operated in a manner such that there is at least a 90 percent removal of VOM by weight from the gases ducted to the control device;

2) An afterburning system that oxidizes at least 90 percent of the captured nonmethane VOMs (VOM measured as total combustible carbon) to carbon dioxide and water; and

3) An alternative VOM emission reduction system demonstrated to have at least a 90 percent overall reduction efficiency and approved by the Agency and approved by the USEPA as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.462 Green Tire Spraying Operations

The owner or operator of a green tire spraying operation at a pneumatic rubber tire manufacturing ~~facility~~source shall:

a) Install and operate:

1) A capture system with a minimum capture efficiency of 90 percent by weight of VOM; and

2) A control device that meets the requirements of one of the following:

A) A carbon adsorption system designed and operated in a manner such that there is at least 90 percent removal of VOM by weight from the ~~bases~~gases ducted to the control device;

B) An afterburning system that oxidizes at least 90 percent of the captured nonmethane VOM (measured as total combustible carbon) to carbon dioxide and water; or

C) An alternative VOM emission reduction system demonstrated to have at least a 90 percent overall reduction efficiency and approved by the Agency and approved by the USEPA as a SIP revision.

b) Substitute for the normal solvent-based mold release compound water-based sprays containing:

1) No more than five percent by volume of VOM as applied for the inside of tires;

2) No more than ten percent by volume of VOM as applied for the outside of tires.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.463 Alternative Emission Reduction Systems

In lieu of complying with Section 218.461 or 218.462 of this Part, the owner or operator of an emission source may utilize an alternative volatile organic emission reduction system, including an alternative production process, which is demonstrated to be equivalent to Section 218.461 or 218.462 of this Part on the basis of emissions of volatile organic ~~matter~~material. A treadend cementing operation shall be considered equivalent to Section 218.461 or 218.462 of this Part for the purposes of this Section if the total volatile organic emission from such operation is 10 grams or less per tire.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.464 ~~Testing and Monitoring~~Emission Testing

a) Upon a reasonable request by the Agency, the owner or operator of a VOM emission source required to comply with a limit of Sections 218.461 through 218.464 of this Part shall conduct emissions testing, at such person's own expense, to demonstrate compliance.

b) A person planning to conduct a VOM emission test to demonstrate compliance shall notify the Agency of that intent not less than 30 days before the planned initiation of the tests so the Agency may observe the test.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.465 Compliance Dates (Repealed)

~~Every owner or operator of an emission source subject to 35 Ill. Adm. Code 215, Subpart S, as of December 31, 1987 shall have complied with its standards and limitations by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

Section 218.466 Compliance Plan (Repealed)

~~a) The owner or operator of an emission source shall have submitted to the Agency a compliance plan, pursuant to 35 Ill. Adm. Code 201, Subpart H, including a project completion schedule where applicable, no later than April 21, 1983.~~

~~b) Unless the submitted compliance plan or schedule was disapproved by the Agency, the owner or operator of a facility or emission source may operate the emission source according to the plan and schedule as submitted.~~

~~c) The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201, Subpart H, including specific interim dates as required in 35 Ill. Adm. Code 201.242.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

SUBPART T: PHARMACEUTICAL MANUFACTURING

Section 218.480 Applicability

a) The rules of this Subpart, except for Sections 218.483 through 218.485 of this Part, apply to all emission ~~sources~~units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lbs/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission ~~source~~unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of this Subpart still apply to the emission ~~source~~unit if VOM emissions from the emission ~~source~~unit exceed 45.4 kg/day (100 lbs/day).

b) Notwithstanding subsection (a) of this Section, the air suspension coater/dryer, fluid bed dryers, tunnel dryers, and Accelacotas located in Libertyville Township, Lake County, Illinois shall be exempt from the rules of this Subpart, except for Sections 218.483 through 218.485, if emissions of VOM not vented to air pollution control equipment do not exceed the following levels:

1) ~~f~~For the air suspension coater/dryer: 2,268 kg/year (2.5 tons/year);

2) ~~f~~For each fluid bed dryer: 4,535 kg/year (5.0 tons/year);

3) ~~f~~For each tunnel dryer: 6,803 kg/year (7.5 tons/year)~~;~~ and

4) ~~f~~For each Accelacota: 6,803 kg/year (7.5 tons/year).

c) Sections 218.483 through 218.485 of this Part apply to a ~~plant~~source having one or more emission ~~sources~~units that:

1) Are used to manufacture pharmaceuticals, and

2) Emit more than 6.8 kg/day (15 lbs/day) of VOM and more than 2,268 kg/year (2.5 tons/year) of VOM, or, if less than 2,268 kg/year (2.5 tons/year), these Sections still apply if emissions from one or more sources exceed 45.4 kg/day (100 lbs/day).

d) No owner or operator shall violate any condition in a permit when the condition results in exclusion of an emission ~~source~~unit from this Subpart.

e) Any pharmaceutical manufacturing source that becomes subject to the provisions of this Subpart at any time shall remain subject to the provisions of this Subpart at all times.

f) Emissions subject to this Subpart shall be controlled at all times consistent with the requirements set forth in this Subpart.

g) Any control device required pursuant to this Subpart shall be operated at all times when the source it is controlling is operated.

h) Determinations of daily and annual emissions for purposes of this Section shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission ~~source~~unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Section 218.487 of this Part for the hourly emission rate (or the emissions per unit of throughput), such items shall be calculated using engineering calculations, including the methods described in

Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/ 2-78-029), incorporated by reference in Section 218.112 of this Part. (This subsection shall not affect the Agency's or the USEPA's authority to require emission tests to be performed pursuant to Section 218.487 of this Part.)

(Source: Amended at ___ Ill. Reg. ______, effective ______________________)

Section 218.481 Control of Reactors, Distillation Units, Crystallizers, Centrifuges and Vacuum Dryers

a) The owner or operator shall equip all reactors, distillation units, crystallizers, centrifuges and vacuum dryers that are used to manufacture pharmaceuticals with surface condensers or other air pollution control equipment listed in subsection (b) of this Section. If a surface condenser is used, it shall be operated such that the condenser outlet gas temperature does not exceed:

1) 248.2°K (-13°F) when condensing VOM of vapor pressure greater than 40.0 kPa (5.8 psi) at 294.3°K (70°F), or

2) 258.2°K (5°F) when condensing VOM of vapor pressure greater than 20.0 kPa (2.9 psi) at 294.3°K (70°F), or

3) 273.2°K (32°F) when condensing VOM of vapor pressure greater than 10.0 kPa (1.5 psi) at 294.3°K (70°F), or

4) 283.2°K (50°F) when condensing VOM of vapor pressure greater than 7.0 kPa (1.0 psi) at 294.3°K (70°F), or

5) 298.2°K (77°F) when condensing VOM of vapor pressure greater than 3.45 kPa (0.5 psi) at 294.3°K (70°F).

b) If a scrubber, carbon adsorber, thermal afterburner, catalytic afterburner, or other air pollution control equipment other than a surface condenser is used, such equipment shall provide a reduction in the emissions of VOM of 90 percent or more.

c) The owner or operator shall enclose all centrifuges used to manufacture pharmaceuticals and that have an exposed VOL surface, where the VOM in the VOL has a vapor pressure of 3.45 kPa (0.5 psi) or more at 294.3°K (70°F), except as production, sampling, maintenance, or inspection procedures require operator access.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.482 Control of Air Dryers, Production Equipment Exhaust Systems and Filters

a) The owner or operator of an air dryer or production equipment exhaust system used to manufacture pharmaceuticals shall control the emissions of VOM from such emission ~~sources~~unit by air pollution control equipment which reduces by 90 percent or more the VOM that would otherwise be emitted into the atmosphere.

b) The owner or operator shall enclose all rotary vacuum filters and other filters used to manufacture pharmaceuticals and that have an exposed VOL surface, where the VOM in the VOL has a vapor pressure of 3.45 kPa (0.5 psi) or more at 294.3°K (70°F), except as production, sampling, maintenance, or inspection procedures require operator access.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.483 Material Storage and Transfer

The owner or operator of a pharmaceutical manufacturing ~~plant~~source shall:

a) Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F), and

b) Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F).

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.485 Leaks

The owner or operator of a pharmaceutical manufacturing ~~plant~~source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.486 Other Emission ~~Sources~~ Units

The owner or operator of a washer, laboratory hood, tablet coating operation, mixing operation or any other process emission ~~source~~unit not subject to Sections 218.481 through 218.485 of this Part, and used to manufacture pharmaceuticals shall control the emissions of VOM from such emission ~~sources~~units by:

a) Air pollution control equipment which reduces by 81 percent or more the VOM that would otherwise be emitted to the atmosphere, or

b) A surface condenser which captures all the VOM which would otherwise be emitted to the atmosphere and which meets the requirements of Section 218.481(a) of this Part ~~and (b)~~.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.487 Testing

a) Upon request by the Agency or the USEPA, the owner or operator of any VOM ~~emission~~ source subject to this Subpart or exempt from this Subpart by virtue of the provisions of Section 218.480 of this Part shall, at his own expense, demonstrate compliance to the Agency and the USEPA by the methods or procedures listed in Section 218.105(f)(1) of this Part.

b) A person planning to conduct a VOM emissions test to demonstrate compliance with this Subpart shall notify the Agency and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.489 Recordkeeping for Air Pollution Control Equipment

a) The owner or operator of a pharmaceutical manufacturing ~~facility~~ source shall maintain the following records:

1) Parameters listed in Section 218.488(a)~~(1)~~ of this Part shall be recorded.

2) For ~~sources~~emission units subject to Section 218.481, of this Part, the vapor pressure of VOM being controlled shall be recorded for every process.

b) For any leak subject to Section 218.485 of this Part which cannot be readily repaired within one hour after detection, the following records shall be kept:

1) The name of the leaking equipment,

2) The date and time the leak is detected,

3) The action taken to repair the leak, and

4) The dat~~a~~e and time the leak is repaired.

c) The following records shall be kept for emission ~~sources~~units subject to Section 218.484 of this Part which contain VOL:

1) For maintenance and inspection:

A) The date and time each cover is opened,

B) The length of time the cover remains open, and

C) The reason why the cover is opened.

2) For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers.

d) For each emission ~~source~~unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing ~~plant~~source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Section 218.480(a) or 218.480(b) of this Part, the owner or operator shall:

1) Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission ~~source~~unit showing that the emissions are below the applicability cutoffs in Section 218.480(a) or 218.480(b) of this Part, as appropriate, for the current and prior calendar years;

2) Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Section 218.480(a) or 218.480(b) of this Part, as appropriate, are ever exceeded; and

3) Provide written notification to the Agency and the USEPA within 30 days of a determination that such an emission ~~source~~unit has exceeded the applicability cutoffs in Section 218.480(a) or 218.480(b) of this Part, as appropriate.

e) Records required under subsection (a) of this Section shall be maintained by the owner or operator for a minimum of two years after the date on which they are made.

f) Copies of the records shall be made available to the Agency or the USEPA upon verbal or written request.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART V: AIR OXIDATION PROCESSES

Section 218.521 Definitions (Repealed)

~~In addition to the definitions of 35 Ill. Adm. Code 211, Section 218.104 the following definitions apply to this Subpart:~~

~~"Air Oxidation Process": any unit process including ammoxidation and oxychlorination which uses air or a combination of air and oxygen as an oxidant in combination with one or more organic reactants to produce one or more organic compounds.~~

~~"Cost Effectiveness": the annual expense for cost of control of a given process stream divided by the reduction in emissions of organic material of that stream.~~

~~"Flow (F)": Vent stream flowrate (scm/min) at a standard temperature of 20°C.~~

~~"Full Operating Flowrate": Maximum operating capacity of the facility.~~

~~"Hourly Emissions (E)": Hourly emissions reported in kg/hr measured at full operating flowrate.~~

~~"Net Heating Value (H)": Vent stream net heating value (MJ/scm), where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of "Flow."~~

~~"Process Vent Stream": An emission stream resulting from an air oxidation process.~~

~~"Total Resource Effectiveness Index (TRE)": Cost effectiveness in dollars per megagram of controlling any gaseous stream vented to the atmosphere from an air oxidation process divided by $1600/Mg, using the criteria and methods set forth in this Subpart and Appendices C and D.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

Section 218.525 Emission Limitations for Air Oxidation Processes

a) No person shall cause or allow the emission of VOM from any process vent stream unless the process vent stream is vented to a combustion device which is designed and operated either:

1) To reduce the volatile organic emissions vented to it with an efficiency of at least ninety eight percent (98%) by weight; or

2) To emit VOM at a concentration less than twenty parts per million by volume, dry basis.

b) <u>An</u> ~~A~~<u>a</u>ir oxidation ~~facilities~~<u>process vent stream</u> for which an existing combustion device is employed to control process VOM emissions ~~are~~<u>is</u> not required to meet the 98 percent emissions limit until the combustion device is replaced for other reasons, which shall be considered to include, but not be limited to, normal maintenance, malfunction, accident, and obsolescence. The combustion device is considered to be replaced when:

1) All of the device is replaced; or

2) When the cost of the repair of the device or the cost of replacement of part of the device exceeds 50% of the cost of replacing the entire device with a device which complies.

c) The limitations of subsection (a) above do not apply to any process vent stream or combination of process vent streams which has a Total Resource Effectiveness Index (TRE) greater than 1.0, as determined by the following methods:

1) If an air oxidation process has more than one process vent stream, TRE shall be based upon a combination of the process vent streams.

2) TRE of a process vent stream shall be determined according to the following equation:

$$TRE = E^{-1} [a + bF^{n} + cF + dFH + e(FH)^{n} + fF^{0.5}]$$

where:

n = 0.88;

TRE = Total resource effectiveness index~~.~~;

F = Vent stream flowrate (scm/min), at a standard temperature of 20°C~~.~~;

E = Hourly measured emissions in kg/hr~~.~~;

H = Net heating value of vent stream (MJ/scm), where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of "Flow"~~.~~;

a, b, c, d, e and f = Coefficients obtained by use of Appendix ~~F~~D.

3) For nonchlorinated process vent streams, if the net heating value, H, is greater than 3.6 MJ/scm, F shall be replaced by ~~F^1~~ F' for purposes of calculating TRE. ~~F^1~~ F' is computed as follows:

$$\cancel{F^1}\underline{F'} = FH / 3.6$$

where F and H are as defined in subsection (c)(2) of this Section.

4) The actual numerical values used in the equation described in subsection (c)(2) above shall be determined as follows:

A) All reference methods and procedures for determining the flow, (F), hourly emissions, (E), and net heating, (H), value shall be in accordance with Appendix C.

B) All coefficients described in subsection (c)(2) of this Section shall be in accordance with Appendix D.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.527 Compliance Date (Repealed)

~~Each owner or operator of an emission source subject to 35 Ill. Adm. Code 215, Subpart V, as of December 31, 1987 shall have complied with the standards and limitations of 35 Ill. Adm. Code 215, Subpart V, by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART W: AGRICULTURE

Section 218.541 Pesticide Exception

The provisions of Sections 218.301 and 218.302 of this Part shall not apply to the spraying or use of insecticides, herbicides or other pesticides.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

SUBPART X: CONSTRUCTION

Section 218.562 Paving Operations

The provisions of Sections 218.301 and 218.302 of this Part shall not apply to the application of paving asphalt and pavement marking paint from sunrise to sunset.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

SUBPART Y: GASOLINE DISTRIBUTION

Section 218.581 Bulk Gasoline Plants

a) Subject to ~~S~~subsection (e) of this Section, no person may cause or allow the transfer of gasoline from a delivery vessel into a stationary storage tank located at a bulk gasoline plant unless:

1) The delivery vessel and the stationary storage tank are each equipped with a vapor collection system that meets the requirements of subsection (d)(4) of this Section~~,~~;

2) Each vapor collection system is operating~~,~~;

3) The delivery vessel displays the appropriate sticker pursuant to the requirements of Sections 218.584 (b) or (d) of this Part~~,~~;

4) The pressure relief valve(s) on the stationary storage tank and the delivery vessel are set to release at no less than 0.7 psi or the highest pressure allowed by state or local fire codes or the guidelines of the National Fire Prevention Association~~,~~; and

5) The stationary storage tank is equipped with a submerged loading pipe.

b) Subject to subsection (f) of this Section, no person may cause or allow the transfer of gasoline from a stationary storage tank located at a bulk gasoline plant into a delivery vessel unless:

1) The requirements set forth in subsections (a)(1) through (a)(4) of this Section are met~~,~~; and

2) Equipment is available at the bulk gasoline plant to provide for the submerged filling of the delivery vessel or the delivery vessel is equipped for bottom loading.

c) Subject to subsection (e) of this Section, each owner of a stationary storage tank located at a bulk gasoline plant shall:

1) Equip each stationary storage tank with a vapor control system that meets the requirements of

subsection (a) or (b) of this Section, whichever is applicable~~,~~;

2) Provide instructions to the operator of the bulk gasoline plant describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system~~,~~; and

3) Repair, replace or modify any worn out or malfunctioning component or element of design.

d) Subject to subsection (e) of this Section, each operator of a bulk gasoline plant shall:

1) Maintain and operate each vapor control system in accordance with the owner's instructions~~,~~;

2) Promptly notify the owner of any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system~~,~~; and

3) Maintain gauges, meters or other specified testing devices in proper working order~~,~~;

4) Operate the bulk plant vapor collection system and gasoline loading equipment in a manner that prevents:

A) Gauge pressure from exceeding 45.7 cm (18 in.) of water and vacuum from exceeding 15.2 cm (6 in.) of water, as measured as close as possible to the vapor hose connection~~,~~; and

B) A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems", Appendix B, EPA 450/2-78-051, (incorporated by reference in Section 218.112) of this Part~~,~~; and

C) Avoidable leaks of liquid during loading or unloading operations.

5) Provide a pressure tap or equivalent on the bulk plant vapor collection system in order to allow the determination of compliance with subsection (d)(4)(A) of this Section~~,~~; and

6) Within 15 business days after discovery of any leak by the owner, the operator, the Agency or the USEPA, repair and retest a vapor collection system which exceeds the limits of subsection (d)(4)(A) or (B) of this Section.

e) The requirements of subsections (a), (c) and (d) of this Section shall not apply to:

1) Any stationary storage tank with a capacity of less than 2,177 l (575 gal)~~,~~; or

2) Any bulk gasoline plant whose daily gasoline throughput is less than 15,140 l (4,000 gal/day) on a thirty-day rolling average.

f) The requirements of subsection (b) of this Section shall apply only to bulk gasoline plants whose daily gasoline throughput is greater than or equal to 15,140 l (4,000 gal/day) on a thirty-day rolling average.

g) Any bulk gasoline plant which is ever subject to subsections (a), (b), (c), or (d) shall always be subject to these paragraphs.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.582 Bulk Gasoline Terminals

a) No person shall cause or allow the transfer of gasoline into any delivery vessel from any bulk gasoline terminal unless:

1) The bulk gasoline terminal is equipped with a vapor control system that limits emission of VOM to 80 mg/l (0.00067 lbs/gal) of gasoline loaded;

2) The vapor control system is operating and all vapors displaced in the loading of gasoline to the delivery vessel are vented only to the vapor control system;

3) There is no liquid drainage from the loading device when it is not in use;

4) All loading and vapor return lines are equipped with fittings which are vapor tight; and

5) The delivery vessel displays the appropriate sticker pursuant to the requirements of Section 218.584(b) or (d) of this Part; or, if the

terminal is driver-loaded, the terminal owner or operator shall be deemed to be in compliance with this Section when terminal access authorization is limited to those owners and/or operators of delivery vessels who have provided a current certification as required by Section 218.584(c)(3) <u>of this Part</u>.

~~b) Bulk gasoline terminals were required to take certain actions to achieve compliance which are summarized in 35 Ill. Adm. Code 215, Appendix C.~~

~~c~~<u>b</u>) The operator of a bulk gasoline terminal shall:

1) Operate the terminal vapor collection system and gasoline loading equipment in a manner that prevents:

A) Gauge pressure from exceeding 18 inches of water and vacuum from exceeding 6 inches of water as measured as close as possible to the vapor hose connection; and

B) A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in EPA 450/2-78-051 Appendix B<u>,</u> incorporated by reference in Section 218.112 <u>of this Part</u>; and

C) Avoidable leaks of liquid during loading or unloading operations.

2) Provide a pressure tap or equivalent on the terminal vapor collection system in order to allow the determination of compliance with Section 218.582(d)(1)(A) <u>of this Part</u>; and

3) Within 15 business days after discovery of the leak by the owner, operator, or the Agency repair and retest a vapor collection system which exceeds the limits of subsection (c)(1)(A) or (B) <u>of this Section</u>.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.583 Gasoline Dispensing Facilities - Storage Tank Filling Operations

a) Subject to subsection (b) below, no person shall cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank at a gasoline dispensing ~~facility~~operation unless:

1) The tank is equipped with a submerged loading pipe; and

2) The vapors displaced from the storage tank during filling are processed by a vapor control system that includes one or more of the following:

A) A vapor collection system that meets the requirements of subsection (d)(4) below; or

B) A refrigeration-condensation system or any other system approved by the Agency and approved by the USEPA as a SIP revision, that recovers at least 90 percent by weight of all vaporized organic material from the equipment being controlled; and

C) The delivery vessel displays the appropriate sticker pursuant to the requirements of Section 218.584(b) or (d) of this Part.

b) The requirements of subsection (a)(2) above shall not apply to transfers of gasoline to a stationary storage tank at a gasoline dispensing ~~facility~~operation if:

1) The tank is equipped with a floating roof, or other system of equal or better emission control approved by the Agency and approved by the USEPA as a SIP revision;

2) The tank has a capacity of less than 2000 gallons and was in place and operating before January 1, 1979; or

3) The tank has a capacity of less than 575 gallons.

c) Subject to subsection (b) above, each owner of a gasoline dispensing ~~facility~~operation shall:

1) Install all control systems and make all process modifications required by subsection (a) above;

2) Provide instructions to the operator of the gasoline dispensing ~~facility~~operation describing

necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system; and

3) Repair, replace or modify any worn out or malfunctioning component or element of design.

d) Subject to subsection (b) above, each operator of a gasoline dispensing ~~facility~~operation shall:

1) Maintain and operate each vapor control system in accordance with the owner's instructions;

2) Promptly notify the owner of any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system;

3) Maintain gauges, meters or other specified testing devices in proper working order;

4) Operate the vapor collection system and delivery vessel unloading points in a manner that prevents:

A) A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in EPA 450/2-78-051 Appendix B, and

B) Avoidable leaks of liquid during the filling of storage tanks; and

5) Within 15 business days after discovery of the leak by the owner, operator, or the Agency, repair and retest a vapor collection system which exceeds the limits of subsection (d)(4)(A) above.

~~e) Gasoline dispensing facilities were required to take certain actions to achieve compliance which are summarized in 35 Ill. Adm. Code 215, Appendix C.~~

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.584 Gasoline Delivery Vessels

a) Any delivery vessel equipped for vapor control by use of vapor collection equipment:

1) Shall have a vapor space connection that is equipped with fittings which are vapor tight;

2) Shall have its hatches closed at all times during loading or unloading operations, unless a top loading vapor recovery system is used;

3) Shall not internally exceed a gauge pressure of 18 inches of water or a vacuum of 6 inches of water;

4) Shall be designed and maintained to be vapor tight at all times during normal operations;

5) Shall not be refilled in Illinois at other than:

   A) A bulk gasoline terminal that complies with the requirements of Section 218.582 <u>of this Part;</u> or

   B) A bulk gasoline plant that complies with the requirements of Section 218.581(b) <u>of this Part</u>.

6) Shall be tested annually in accordance with Method 27, 40 CFR 60, Appendix A, incorporated by reference in Section 218.105. Each vessel must be repaired and retested within 15 business days after discovery of the leak by the owner, operator, or the Agency, when it fails to sustain:

   A) A pressure drop of no more than three inches of water in five minutes; and

   B) A vacuum drop of no more than three inches of water in five minutes.

b) Any delivery vessel meeting the requirements of subsection (a) <u>of this Section</u> shall have a sticker affixed to the tank adjacent to the tank manufacturer's data plate which contains the tester's name, the tank identification number and the date of the test. The sticker shall be in a form prescribed by the Agency, and, for those delivery vessels subject to 35 Ill. Adm. Code 215 as of December 31, 1987 shall have been displayed no later than December 31, 1987.

c) The owner or operator of a delivery vessel shall:

1) Maintain copies of any test required under subsection (a)(6) <u>of this Section</u> for a period of 3 years;

2) Provide copies of these tests to the Agency upon request; and

3) Provide annual test result certification to bulk gasoline plants and terminals where the delivery vessel is loaded.

d) Any delivery vessel which has undergone and passed a test in another state which has a USEPA-approved leak testing and certification program will satisfy the requirements of subsection (a) of this Section. Delivery vessels must display a sticker, decal or stencil approved by the state where tested or comply with the requirements of subsection (b) of this Section. All such stickers, decals or stencils shall have been displayed no later than December 31, 1987, for delivery vessels subject to 35 Ill. Adm. Code 215 as of December 31, 1987.

(Source: Amended at ___ Ill. Reg. ______, effective _____________ __________)

Section 218.585 Gasoline Volatility Standards

a) No person shall sell, offer for sale, dispense, supply, offer for supply, or transport for use in Illinois gasoline whose Reid vapor pressure exceeds the applicable limitations set forth in subsections (b) and (c) of this Section during the regulatory control periods, which shall be ~~July~~ May 1 to ~~August 31~~ September 15 for retail outlets, wholesale purchaser-consumer, ~~facilities~~ operations, and all other ~~facilities~~ operations.

b) The Reid vapor pressure of gasoline, a measure of its volatility, shall not exceed 9.~~5~~0 psi (~~65.5~~ 62.07 kPa) during the regulatory control period in 1990 and each year thereafter.

c) The Reid vapor pressure of ethanol blend gasolines shall not exceed the limitations for gasoline set forth in subsection (b) of this Section by more than 1.0 psi (6.9 kPa). Notwithstanding this limitation, blenders of ethanol blend gasolines whose Reid vapor pressure is less than 1.0 psi above the base stock gasoline immediately after blending with ethanol are prohibited from adding butane or any product that will increase the Reid vapor pressure of the blended gasoline.

d) All sampling of gasoline required pursuant to the provisions of this Section shall be conducted by one or more of the following approved methods or procedures which are incorporated by reference in Section 215.105.

1) For manual sampling, ASTM D4057;

2) For automatic sampling, ASTM D4177;

3) Sampling procedures for Fuel Volatility, 40 CFR 80 Appendix D.

e) The Reid vapor pressure of gasoline shall be measured in accordance with either test method ASTM D323 or a modification of ASTM D323 known as the "dry method" as set forth in 40 CFR 80, Appendix E, incorporated by reference in 35 Ill. Adm. Code ~~215~~218.~~105~~112 of this Part. For gasoline - oxygenate blends which contain water-extractable oxygenates, the Reid vapor pressure shall be measured using the dry method test.

f) The ethanol content of ethanol blend gasolines shall be determined by use of one of the approved testing methodologies specified in 40 CFR 80, Appendix F, incorporated by reference in 35 Ill. Adm. Code ~~215~~218.~~105~~112 of this Part.

g) Any alternate to the sampling or testing methods or procedures contained in subsections (d), (e), and (f) of this Section must be approved by the Agency, which shall consider data comparing the performance of the proposed alternative to the performance of one or more approved test methods or procedures. Such data shall accompany any request for Agency approval of any alternate test procedure. If the Agency determines that such data demonstrates that the proposed alternative will achieve results equivalent to the approved test methods or procedures, the Agency shall approve the proposed alternative.

h) Each refiner or supplier that distributes gasoline or ethanol blends shall:

1) During the regulatory control period, state that the Reid vapor pressure of all gasoline or ethanol blends leaving the refinery or distribution ~~facility~~ operation for use in Illinois complies with the Reid vapor pressure limitations set forth in 35 Ill. Adm. Code ~~215~~218.585(b) and (c). Any ~~facility~~operation receiving this gasoline shall be provided with a copy of an invoice, bill of lading, or other documentation used in normal business practice stating that the Reid vapor pressure of the gasoline complies with the State Reid vapor pressure standard.

2) Maintain records for a period of one year on the Reid vapor pressure, quantity shipped and date of delivery of any gasoline or ethanol blends leaving

the refinery or distribution ~~facility~~ operation for use in Illinois. The Agency shall be provided with copies of such records if requested.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.586 Gasoline Dispensing ~~Facilities~~ Operations - Motor Vehicle Fueling Operations

a) For the purposes of this Section, the following definitions apply.

1) Average ~~M~~monthly ~~V~~volume~~:~~ means t~~T~~he amount of motor vehicle fuel dispensed per month from a gasoline dispensing ~~facility~~ operation based upon a monthly average for the 2-year period of November, 1990 through October, 1992 or, if not available, the monthly average for the most recent twelve calendar months. Monthly averages are to include only those months when the ~~facility~~ operation was operating.

2) Certified~~:~~ means a~~A~~ny vapor collection and control system which has been tested and approved by CARB as having a vapor recovery and removal efficiency of at least 95% (by weight) shall constitute a certified vapor collection and control system. CARB testing and approval is pursuant to the CARB manual, ~~hereby~~ incorporated by reference at 218.112 of this Part ~~(California Air Resources Board, Compliance Division, Compliance Assistance Program: Facilities Phase I & II (October 1988, rev. March 1991 CARB Manual)). This incorporation includes no later additions or amendments.~~

3) Completion of installation~~:~~ means t~~T~~he successful passing of one or more of the following tests applicable to the installed vapor collection and control system: Dynamic Backpressure Test, Pressure Decay/Leak Test, and Liquid Blockage Test, ~~(United States Environmental Protection Agency, Washington D.C., EPA-450-3-91-002b). These tests are hereby~~ incorporated by reference at 218.112 of this Part. ~~This incorporation includes no later additions or amendments~~.

4) Constructed~~:~~ means f~~F~~abricated, erected or installed; refers to any facility, emission source or air pollution control equipment.

5) CARB~~:~~ means California Air Resources Board, P.O. Box 2815, Sacramento, CA 95812.

6) Employee~~:~~ means aAny person who performs work for an employer.

7) ~~Facility~~Operation~~:~~ means aAny building, structure, installation, operation or combination thereof located on contiguous properties and under common ownership that provides for the dispensing of motor vehicle fuel.

8) Gasoline ~~D~~dispensing ~~Facility~~ operation~~:~~ means aAny ~~facility~~operation where motor vehicle fuel is dispensed into motor vehicle fuel tanks or portable containers from a storage tank with a capacity of 2176 liters (575 gallons) or more.

9) Modification~~:~~ means aAny change, removal or addition, other than an identical replacement, of any component contained within the vapor collection and control system.

10) Motor ~~V~~vehicle~~:~~ means aAny self-propelled vehicle powered by an internal combustion engine including, but not limited to, automobiles and trucks. Specifically excluded from this definition are watercraft and aircraft.

11) Motor ~~V~~vehicle ~~F~~fuel~~:~~ means aAny petroleum distillate having a Reid vapor pressure of more than 27.6 kilopascals (kPa) (four pounds per square inch) and which is used to power motor vehicles.

12) Owner or ~~O~~operator~~:~~ means aAny person who owns, leases, operates, manages, supervises or controls (directly or indirectly) a gasoline dispensing ~~facility~~operation.

13) Reid ~~V~~vapor ~~P~~pressure~~:~~ fFor gasoline, ~~it~~ shall be measured in accordance with either the method ASTM D323 or a modification of ASTM D323 known as the "dry method" as set forth in 40 CFR 80, Appendix E, incorporated by references in 35 Ill. Adm. Code ~~215.105~~218.112 of this Part.

14) Vapor ~~C~~collection and ~~C~~control ~~S~~system~~:~~ means aAny system certified by CARB which limits the discharge to the atmosphere of motor vehicle fuel vapors displaced during the dispensing of motor vehicle fuel into motor vehicle fuel tanks.

b) The provisions of subsection (c) below shall apply to any gasoline dispensing ~~facility~~ operation which dispenses an average monthly volume of more than 10,000 gallons of motor vehicle fuel per month. Compliance shall be demonstrated in accordance with the schedule provided in subsection (d) below.

c) No owner or operator of a gasoline dispensing ~~facility~~ operation subject to the requirements of subsection (b) above shall cause or allow the dispensing of motor vehicle fuel at any time from a motor fuel dispenser unless the dispenser is equipped with and utilizes a vapor collection and control system which is properly installed and operated as provided below:

1) Any vapor collection and control system installed, used or maintained has been CARB certified.

2) Any vapor collection and control system utilized is maintained in accordance with the manufacturer's specifications and the certification.

3) No elements or components of a vapor collection and control system are modified, removed, replaced or otherwise rendered inoperative in a manner which prevents the system from performing in accordance with its certification and design specifications.

4) A vapor collection and control system has no defective, malfunctioning or missing components.

5) Operators and employees of the gasoline dispensing ~~facility~~ operation are trained and instructed in the proper operation and maintenance of a vapor collection and control system.

6) Instructions are posted in a conspicuous and visible place within the motor fuel dispensing area and describe the proper method of dispensing motor vehicle fuel with the use of the vapor collection and control system.

d) In conjunction with the compliance provisions of Section 218.105 of this Part, ~~facilities~~operations subject to the requirements of subsection (c) above shall demonstrate compliance according to the following:

1) ~~Facilities~~Operations that commenced construction after November 1, 1990, must comply by May 1, 1993.

2) ~~Facilities~~Operations that commenced construction before November 1, 1990, and dispense an average monthly volume of more than 100,000 gallons of motor fuel per month must comply by November 1, 1993.

3) ~~Facilities~~Operations that commenced construction before November 1, 1990, and dispense an average monthly volume of less than 100,000 gallons of motor fuel per month must comply by November 1, 1994.

4) New ~~facilities~~operations constructed after the adoption of this Section shall comply with the requirements of subsection (c) above upon startup of the ~~facility~~operation.

5) Existing ~~facilities~~operations previously exempted from but which become subject to the requirements of subsection (c) above after May 1, 1993 shall comply with the requirements of subsection (c) above within six calendar months of the date from which the ~~facility~~operation becomes subject.

e) Any gasoline dispensing ~~facility~~ operation that becomes subject to the provisions of subsection (c) above at any time shall remain subject to the provisions of subsection (c) above at all times.

f) Upon request by the Agency, the owner or operator of a gasoline dispensing ~~facility~~operation which claims to be exempt from the requirements of this Section shall submit records to the Agency within 30 calendar days from the date of the request which demonstrate that the gasoline dispensing ~~facility~~operation is in fact exempt.

g) Recordkeeping and reporting:

1) Any gasoline dispensing ~~facility~~operation subject to subsection (c) above shall retain at the ~~facility~~ operation copies of the registration information required at subsection (h) below.

2) Records and reports required pursuant to this subsection shall be made available to the Agency upon request. Records and reports which shall be maintained by the owner or operator of the

gasoline dispensing ~~facility~~operation shall clearly demonstrate:

A) That a certified vapor collection and control system has been installed and tested to verify its performance according to its specifications.

B) That proper maintenance has been conducted in accordance with the manufacturer's specifications and requirements.

C) The time period and duration of all malfunctions of the vapor collection and control system.

D) The motor vehicle fuel throughput of the ~~facility~~operation for each calendar month of the previous year.

E) That operators and employees are trained and instructed in the proper operation and maintenance of the vapor collection and control system and informed as to the potential penalties associated with the violation of any provision of this Section.

h) Any gasoline dispensing ~~facility~~operation subject to subsection (c) above shall be exempt from the permit requirements specified under 35 Ill. Adm. Code 201.142, 201.143 and 201.144 for its vapor collection and control systems, provided that:

1) Upon the installation of a vapor collection and control system, the owner or operator of the gasoline dispensing ~~facility~~operation submits to the Agency a registration which provides at minimum the ~~facility~~ operation name and address, signature of the owner or operator, the CARB Executive Order Number for the vapor collection and control system to be utilized, the number of nozzles (excluding diesel or kerosene) used for motor vehicle refueling, the monthly average volume of motor vehicle fuel dispensed, the location (including contact person's name, address, and telephone number) of records and reports required by this Section, and the date of completion of installation of the vapor collection and control system.

2) The registration is submitted to the Agency within 30 days of completion of such installation.

3) A copy of the registration information is maintained at the gasoline dispensing ~~facility~~ operation.

4) Upon the modification of an existing vapor collection and control system, the owner or operator of the gasoline dispensing ~~facility~~ operation submits to the Agency a registration that details the changes to the information provided in the previous registration of the vapor collection and control system and which includes the signature of the owner or operator. The registration must be submitted to the Agency within 30 days of completion of such modification.

(Source: Amended at ______ Ill. Reg. ________, effective________)

SUBPART Z: DRY CLEANERS

Section 218.601 Perchloroethylene Dry Cleaners

The owner or operator of a dry cleaning ~~facility~~operation which uses perchloroethylene shall:

a) Vent the entire dryer exhaust through a properly designed and functioning carbon adsorption system or equally effective control device; and

b) Emit no more than 100 ppmv of VOM from the dryer control device before dilution, or achieve a 90 percent average reduction before dilution; and

c) Immediately repair all components found to be leaking liquid VOM; and

d) Cook or treat all diatomaceous earth filters so that the residue contains 25 kg (55 lb) or less of VOM per 100 kg (220 lb) of wet waste material; and

e) Reduce the VOM from all solvent stills to 60 kg (132 lb) or less per 100 kg (220 lb) of wet waste material; and

f) Drain all filtration cartridges in the filter housing or other sealed container for at least 24 hours before discarding the cartridges; and

g) Dry all drained filtration cartridges in equipment connected to an emission reduction system or in a manner that will eliminate emission of VOM to the atmosphere.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.602 Exemptions

The provisions of Section 218.601 of this Part are not applicable to perchloroethylene dry cleaning operations which are coin-operated or to dry cleaning ~~facilities~~operations consuming less than 30 gal per month (360 gal per year) of perchloroethylene.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.603 Leaks

The presence of leaks shall be determined for purposes of Section 218.601(c) of this Part by a visual inspection of the following: hose connections, unions, couplings and valves; machine door gaskets and seatings; filter head gasket and seating; pumps; base tanks and storage containers; water separators; filter sludge recovery; distillation unit; diverter valves; saturated lint from lint baskets; and cartridge filters.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.604 Compliance Dates (Repealed)

~~Every owner or operator of an emission source previously subject to 35 Ill. Adm. Code 215, Subpart Z, shall have complied with its standards and limitations in accordance with the applicable dates set forth in 35 Ill. Adm. Code 215.604.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.605 Compliance Plan (Repealed)

~~a)~~ ~~The owner or operator of an emission source subject to this Subpart shall have submitted to the Agency a compliance plan, pursuant to 35 Ill. Adm. Code 201, Subpart H, including a project completion schedule where applicable, no later than, for Section 218.601(a) and (b), April 21, 1983.~~

~~b)~~ ~~Unless the submitted compliance plan or schedule was disapproved by the Agency, the owner or operator of a facility or emission source may operate the emission source according to the plan and schedule as submitted.~~

~~c) The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201, Subpart H, including specific interim dates as required in 35 Ill. Adm. Code 201.242.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

Section 218.606 Exception to Compliance Plan (Repealed)

~~Coin-operated dry cleaning operations and dry cleaning facilities consuming less than 30 gal per month (360 gal per year) of perchloroethylene are not required to submit or obtain an Agency approved compliance plan or project completion schedule.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

Section 218.608 Operating Practices for Petroleum Solvent Dry Cleaners

In order to minimize fugitive solvent emissions, the owner or operator of a petroleum solvent dry cleaning ~~facility~~source shall employ good housekeeping practices including the following:

a) General Housekeeping Requirements

1) Equipment containing solvent (washers, dryers, extractors and filters) shall remain closed at all times except during load transfer and maintenance. Lint filter and button trap covers shall remain closed except when solvent-laden material is being removed.

2) Cans, buckets, barrels and other containers of solvent or of solvent-laden material shall be covered except when in use.

3) Solvent-laden material shall be exposed to the atmosphere only for the minimum time necessary for load transfer.

b) Installation and operation of equipment:

1) All cartridge filters shall be enclosed and operated in accordance with the procedures and specifications recommended by the manufacturer for the cartridge filter. After installation, the cartridges shall be inspected, monitored and maintained in accordance with the manufacturer's recommendations; and

2) Vents on containers for new solvent and for solvent-containing waste shall be constructed and maintained so as to minimize solvent vapor emissions. Criteria for the minimization of solvent vapor emissions include the elimination of solvent buckets and barrels standing open to the atmosphere, and the repair of gaskets and seals that expose solvent-rich environments to the atmosphere, to be determined through visual inspection.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.609 Program for Inspection and Repair of Leaks

a) The owner or operator of a petroleum solvent dry cleaning ~~facility~~source shall conduct the following visual inspections on a weekly basis:

1) Washers, dryers, solvent filters, settling tanks, vacuum stills and containers and conveyors of petroleum solvent shall be inspected for visible leaks of solvent liquid.

2) Pipes, hoses and fittings shall be inspected for active dripping or dampness.

3) Pumps and filters shall be inspected for leaks around seals and access covers.

4) Gaskets and seals shall be inspected for wear and defects.

b) Leaks of petroleum solvent liquid and vapors shall be repaired within three working days of detection, unless necessary replacement parts are not on site.

1) If necessary, repair parts shall be ordered within three working days of detection of the leak.

2) The leak shall be repaired within three days of delivery of necessary parts.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.610 Testing and Monitoring

a) Compliance with Sections 218.607(b)(2), 218.608 and 218.609 of this Part shall be determined by visual inspection; and

b) Compliance with Sections 218.607(a)(2) and (b)(1) of this Part shall be determined by methods described in EPA-450/3-82-009 (1982) incorporated by reference in Section 218.112 of this Part.

c) If a control device is used to comply with Section 218.607(a)(1) of this Part, then compliance shall be determined using 40 CFR 60 Appendix A, Method 25 (1984) incorporated by reference in Section 218.112 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.611 Exemption for Petroleum Solvent Dry Cleaners

The provisions of Sections 218.607 through 218.610 of this Part shall not apply to petroleum solvent dry cleaning ~~facilities~~ sources whose emissions of VOM do not exceed 91 megagrams (100 tons) per year in the absence of pollution control equipment or whose emissions of VOM, as limited by the operating permit, will not exceed 91 megagrams (100 tons) per year in the absence of pollution control equipment.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.612 Compliance Dates (Repealed)

~~Oowners and operators of emission sources subject to 35 Ill. Adm. Code 215.607 through 215.609 as of December 31, 1987 shall have complied with the requirements set forth therein no later than December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.613 Compliance Plan (Repealed)

~~a) The owner or operator of an emission source subject to 35 Ill. Adm. Code 215.610(a) as of May 31, 1987 shall have submitted to the Agency a compliance plan, including a project completion schedule where applicable, no later than May 31, 1987.~~

~~b) The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

SUBPART AA: PAINT AND INK MANUFACTURING

Section 218.620 Applicability

a) This Ssubpart shall apply to all paint and ink manufacturing ~~plants~~sources which:

1) Include process emission ~~sources~~units not subject to Subparts B, E, F (excluding Section 218.204(l) of this Part), H (excluding Section 218.405 of this Part), Q, R, S, T (excluding Section 218.486 of this Part), V, X, Y, Z or BB of this Part; and which as a group both:

A) H~~h~~ave maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

B) A~~a~~re not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or a SIP revision, or

2) Produce more than 7,570,820 l (2,000,000 gal) per calendar year of paint or ink formulations, which contain less than 10 percent (by weight) water, and ink formulations not containing as the primary solvents water, Magie oil or glycol.

b) For the purposes of this Subpart, uncontrolled VOM emissions are the emissions of VOM which would result if no air pollution control equipment were used.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.621 Exemption for Waterbase Material and Heatset-Offset Ink

The requirements of Sections 218.624 and 218.625 and Section 218.628(a) of this Part shall not apply to equipment while it is being used to produce either:

a) ~~p~~Paint or ink formulations which contain 10 percent or more (by weight) water, or

b) ~~i~~Inks containing Magie oil and glycol as the primary solvent.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.623 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.624 Open-~~t~~Top Mills, Tanks, Vats or Vessels

No person shall operate an open-top mill, tank, vat or vessel with a volume of more than 45 l (12 gal) for the production of paint or ink unless:

a) The mill, tank, vat or vessel is equipped with a cover which completely covers the mill, tank, vat or vessel opening except for an opening no larger than necessary to allow for safe clearance for a mixer shaft. Such cover shall extend at least 1.27 cm (0.5 in) beyond the outer rim of the opening or be attached to the rim.

b) The cover remains closed except when production, sampling, maintenance or inspection procedures require access.

c) The cover is maintained in good condition such that, when in place, it maintains contact with the rim of the opening for at least 90 percent of the circumference of the rim.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.628 Leaks

The owner or operator of a paint or ink manufacturing ~~plant~~source shall, for the purpose of detecting leaks, conduct an equipment monitoring program as set forth below:

a) Each pump shall be checked by visual inspection each calendar week for indications of leaks, that is, liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, the pump shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.

b) Any pump, valve, pressure relief valve, sampling connection, open-ended valve and flange or connector containing a fluid which is at least 10 percent VOM by weight which appears to be leaking on the basis of sight, smell or sound shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.

c) A weather proof, readily visible tag, in bright colors such as red or yellow, bearing an identification number and the date on which the leak was detected shall be attached to leaking equipment. The tag may be removed upon repair, that is, when the equipment is adjusted or otherwise altered to allow operation without leaking.

d) When a leak is detected, the owner or operator shall record the date of detection and repair and the record shall be retained at the ~~plant~~source for at least two years from the date of each detection or each repair attempt. The record shall be made available to any person upon verbal or written request during business hours.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.636 Compliance Schedule

Every owner or operator of a ~~an emission~~ source subject to the control requirements of this Subpart shall comply with the requirements thereof on and after a date consistent with Section 218.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.637 Recordkeeping and Reporting

a) Upon request by the Agency, the owner or operator of an emission source which claims to be exempt from the requirements of this Subpart shall submit records to the Agency within 30 calendar days from the date of the request which document that the emission source is in fact exempt from this Subpart. These records shall include (but are not limited to) the percent water (by weight) in the paint or ink being produced and the quantity of Magie oil, glycol and other solvents in the ink being produced.

b) Every owner or operator of a~~n~~ ~~emission~~ source which is subject to the requirements of this Subpart shall maintain all records necessary to demonstrate compliance with those requirements at the ~~facility~~ source for three years.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART BB: POLYSTYRENE PLANTS

Section ~~218.875~~218.640 Applicability ~~of Subpart BB~~

The provisions of this Subpart shall apply to polystyrene plants:

a) Which use continuous processes to manufacture polystyrene - polybutadiene co-polymer; and

b) Which fall within Standard Industrial Classification Group No. 282, Industry No. 2821, except that the manufacture of polystyrene resins need not be the primary manufacturing process at the plant.

(Source: Renumbered from Section 218.875 and amended at ____ Ill. Reg. _____, effective ________________________)

Section ~~218.877~~218.642 Emissions Limitation at Polystyrene Plants

No person shall cause or allow the emissions of VOM from the material recovery section to exceed 0.12 kg of Volatile Organic Material per 1000 kg of polystyrene resin produced.

(Source: Renumbered from Section 218.877 at ___ Ill. Reg. _____, effective ___________________________)

Section ~~218.886~~218.644 Emissions Testing

a) Upon a reasonable request by the Agency, the owner or operator of a polystyrene plant subject to this Subpart shall at his own expense demonstrate compliance by use of the following method: 40 CFR 60, Appendix A, Method 25 - Determination of Total Gaseous Non-Methane Organic Emissions as Carbon (1984), incorporated by reference in Section 218.112 of this Part.

b) A person planning to conduct a VOM emissions test to demonstrate compliance with this Subpart shall notify the Agency of that intent not less than 30 days before the planned initiation of the tests so the Agency may observe the test.

(Source: Renumbered from Section 218.886 and amended at ____ Ill. Reg. _____, effective ________________________)

Section 218.875 Applicability of Subpart BB (Renumbered)

(Source: Renumbered to Section 218.640 at ____ Ill. Reg. ____ effective ______________)

Section 218.877 Emissions Limitation at Polystyrene Plants <u>(Renumbered)</u>

(Source: Renumbered to Section 218.642 at ____ Ill. Reg. ____ effective ______________________)

Section 218.879 Compliance Date <u>(Repealed)</u>

~~Every owner and operator of an emission source subject to 35 Ill. Adm. Code 215, Subpart BB, as of December 31, 1987, shall have complied with its standards and limitations by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective _____________ _________)

Section 218.881 Compliance Plan <u>(Repealed)</u>

~~a)~~ ~~The owner or operator of an emission source formerly subject to the requirements of 35 Ill. Adm. Code 215 Subpart BB shall have submitted to the Agency a compliance plan in accordance with 35 Ill. Adm. Code 201, Subpart H, including a project completion schedule on or before December 1, 1987.~~

~~b)~~ ~~Unless the submitted compliance plan or schedule was disapproved by the Agency, the owner or operator of a facility or emission source subject to this Subpart may operate the emission source according to the plan and schedule as submitted.~~

~~c)~~ ~~The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201, Subpart H and Section 218.883.~~

(Source: Repealed at ___ Ill. Reg. ______, effective _____________ _________)

Section 218.883 Special Requirements for Compliance Plan <u>(Repealed)</u>

~~For sources subject to this Subpart, an approvable compliance plan shall include:~~

~~a)~~ ~~A description of each process which is subject to an emissions limitation;~~

~~b)~~ ~~Quantification of the emissions from each process;~~

~~c)~~ ~~A description of the procedures and methods used to determine the emissions of VOM;~~

~~d) A description of the methods which will be used to demonstrate compliance with the allowable plantwide emission limitation (Section 215.877), including a method of inventory, recordkeeping and emission calculation or measurement.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ _________)

Section 218.886 Emissions Testing (Renumbered)

(Source: Renumbered to Section 218.644 at ____ Ill. Reg. _____, effective ______________________________)

SUBPART PP: MISCELLANEOUS FABRICATED PRODUCT MANUFACTURING PROCESSES

Section 218.920 Applicability

a) The requirements of this Subpart shall apply to a ~~plant's~~source's miscellaneous fabricated product manufacturing process emission ~~sources~~units which are not included within any of the ~~source~~ categories specified in Subparts B, E, F, H, Q, R, S, T, V, X, Y, ~~or~~ Z or BB if the ~~plant~~source is subject to this Subpart. A ~~plant~~source is subject to this Subpart if it contains process emission ~~sources~~units, not regulated by Subparts B, E, F (excluding Section 218.204(l) of this Part), H (excluding Section 218.405 of this Part), Q, R, S, T (excluding Section 218.486 of this Part), V, X, Y, ~~or~~ Z or BB of this Part; which as a group both:

1) H~~h~~ave maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

2) A~~a~~re not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or a SIP revision.

b) If a ~~plant~~source ceases to fulfill the criteria of subsection (a) above, the requirements of this Subpart shall continue to apply to a miscellaneous fabricated products manufacturing process emission ~~source~~unit which was ever subject to the control requirements of Section 218.926 of this Part.

c) No limits under this Subpart shall apply to emission ~~sources~~units with emissions of VOM to the atmosphere less than or equal to 0.91 Mg (1.0 ton) per calendar year if the total emissions from such ~~sources~~ emission units not complying with Section 218.926 does not exceed 4.5 Mg (5.0 tons) per calendar year of this Part.

d) For the purposes of this Subpart, an emission ~~source~~unit shall be considered regulated by a Subpart if it is subject to the limits of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. ~~its emissions are below the applicability cutoff level or if the source is covered by an exemption.~~

e) For the purposes of this Subpart, uncontrolled VOM emissions are the emissions of VOM which would result if no air pollution control equipment were used.

f) The control requirements in Subpart PP shall not apply to sewage treatment plants; vegtable oil extraction and processing; coke ovens (including by-product recovery plants); fuel combustion units; bakeries; barge loading facilities; jet engine test cells; production of polystyrene foam insulation board including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source, but not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin; production of polystyrene foam packaging not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin and not including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source; and iron and steel production.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.923 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.926 Control Requirements

Every owner or operator of a~~n emission source~~miscellaneous fabricated product manufacturing process emission unit subject to this Subpart shall comply with the requirements of subsection (a), (b) or (c) of this Section:

a) Emission capture and control techniques which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or

(Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 218.112, e.g., a coating line, a printing line, a process unit, a wastewater system, or other equipment, or is otherwise any part or activity at a source.)

b) For coating lines, the daily-weighted average VOM content shall not exceed 0.42 kg VOM/l (3.5 lbs VOM/gal) of coating as applied (minus water and any compounds which are specifically exempted from the definition of VOM) during any day. Owners and operators complying with this Section are not required to comply with Section 218.301 of this Part, or

c) An alternative control plan which has been approved by the Agency and ~~approved by~~ the USEPA in federally enforceable permit or as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.927 Compliance Schedule

Every owner or operator of an emission ~~source~~unit subject to the control requirements of this Subpart shall comply with the requirements thereof on and after a date consistent with Section 218.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.928 Testing

a) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with Section

281.926, the owner or operator of a VOM emission ~~source~~unit subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 218.105.

b) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART QQ: MISCELLANEOUS FORMULATION MANUFACTURING PROCESSES

Section 218.940 Applicability

a) The requirements of this Subpart shall apply to a ~~plant's~~source's miscellaneous formulation manufacturing process emission ~~sources~~units, which are not included within any of the ~~source~~ categories specified in Subparts B, E, F, H, Q, R, S, T, V, X, Y, ~~or~~ Z or BB of this Part if the ~~plant~~source is subject to this Subpart. A ~~plant~~source is subject to this Subpart if it contains process emission ~~sources~~units, not regulated by Subparts B, E, F (excluding Section 218.204(l) of this Part), H (excluding Section 218.405 of this Part), Q, R, S, T (excluding Section 218.486 of this Part), V, X, Y, ~~or~~ Z or BB of this Part; which as a group both:

1) H~~h~~ave maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

2) A~~a~~re not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or a SIP revision.

b) If a ~~plant~~source ceases to fulfill the criteria of subsection (a) of this Section, the requirements of this Subpart shall continue to apply to a miscellaneous formulation manufacturing process emission ~~source~~unit which was ever subject to the control requirements of Section 218.946 of this Part.

c) No limits under this Subpart shall apply to emission ~~sources~~units with emissions of VOM to the atmosphere less than or equal to 2.3 Mg (2.5 tons) per calendar year if the total emissions from such emission units ~~sources~~ not complying with this Section does not exceed 4.5 Mg (5.0 tons) per calendar year.

d) For the purposes of this Subpart, an emission ~~source~~unit shall be considered regulated by a Subpart if it is subject to the limits of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. ~~its emissions are below the applicability cutoff level or if the source is covered by an exemption.~~

e) For the purposes of this Subpart, uncontrolled VOM emissions are the emissions of VOM which would result if no air pollution control equipment were used.

f) The control requirements in Subpart OO shall not apply to sewage treatment plants; vegetable oil extraction and processing; coke ovens (including by-product recovery plants); fuel combustion units; bakeries; barge loading facilities; jet engine test cells; production of polystyrene foam insulation board including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source, but not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin; production of polystyrene foam packaging not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin and not including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source; and iron and steel production.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.943 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.946 Control Requirements

Every owner or operator of a~~n~~ miscellaneous formulation manufacturing process emission ~~source~~unit subject to this Subpart shall comply with the requirements of subsection (a) or (b) below.

a) Emission capture and control techniques which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or

(Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 218.112, e.g., a coating line, a printing line, a process unit, a wastewater system, or other equipment, or is otherwise any part or activity at a source.)

b) An alternative control plan which has been approved by the Agency and ~~approved by~~ the USEPA in a federally enforceable permit or as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.947 Compliance Schedule

Every owner or operator of an emission ~~source~~unit subject to the control requirements of this Subpart shall comply with the requirements thereof on and after a date consistent with Section 218.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.948 Testing

a) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with Section 218.946 of this Part, the owner or operator of a VOM emission ~~source~~unit subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 218.105 of this Part.

b) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART RR: MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING PROCESSES

Section 218.960 Applicability

a) The requirements of this Subpart shall apply to a ~~plant's~~source's miscellaneous organic chemical manufacturing process emission ~~sources~~units which are not included within any of the ~~source~~ categories specified in Subparts B, E, F, H, Q, R, S, T, V, X, Y, Z or BB of this Part, if the ~~plant~~source is subject to this Subpart. A ~~plant~~source is subject to this Subpart if it contains process emission ~~sources~~units, not regulated by Subparts B, E, F (excluding Section 218.204(l) of this Part), H (excluding Section 218.405 of this Part), Q, R, S, T (excluding Section 218.486 of this Part), V, X, Y, ~~or~~ Z or BB of this Part; which as a group both:

1) H~~h~~ave maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

2) A~~a~~re not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or a SIP revision.

b) If a ~~plant~~source ceases to fulfill the criteria of Subsection (a) of this Section, the requirements of this Subpart shall continue to apply to a miscellaneous organic chemical manufacturing process emission ~~source~~unit which was ever subject to the control requirements of Section 218.966 of this Part.

c) No limits under this Subpart shall apply to emission ~~sources~~units with emissions of VOM to the atmosphere less than or equal to 0.91 Mg (1.0 ton) per calendar year if the total emissions from such emission units ~~sources~~ not complying with Section 218.966 of this Part does not exceed 4.5 Mg (5.0 tons) per calendar year.

d) For the purposes of this Subpart, an emission ~~source~~ unit shall be considered regulated by a Subpart if it is subject to the limits of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. ~~its emissions are below the applicability~~

~~cutoff level or if the source is covered by an exemption.~~

e) For the purposes of this Subpart, uncontrolled VOM emissions are the emissions of VOM which would result if no air pollution control equipment were used.

f) The control requirements in Subpart RR shall not apply to sewage treatment plants; vegetable oil extraction and processing; coke ovens (including by-product recovery plants); fuel combustion units; bakeries; barge loading facilities; jet engine test cells; production of polystyrene foam insulation board including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source, but not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin; production of polystyrene foam packaging not including blendng and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin and not including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source; and iron and steel production.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.963 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.966 Control Requirements

Every owner or operator of ~~an emission source~~a miscellaneous organic chemical manufacturing process emission unit subject to this Subpart shall comply with the requirements of subsection (a), ~~or~~ (b) or (c) below.

a) Emission capture and control techniques which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or

(Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 218.112, e.g., a coating line, a printing line, a process unit, a wastewater system, or other equipment, or is otherwise any part or activity at a source.)

b) An alternative control plan which has been approved by the Agency and ~~approved by~~ the USEPA in a federally enforceable permit or as a SIP revision.

c) Any leaks from components subject to the control requirements of this Subpart shall be subject to the following control measures by March 15, 1995:

1) Repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found, unless the leaking component cannot be repaired until the next process unit shutdown, in which case the leaking component must be repaired before the unit is restarted.

2) For any leak which cannot be readily repaired within one hour after detection, the following records, as set forth in this subsection, shall be kept. These records shall be maintained by the owner or operator for a minimum of two years after the date on which they are made. Copies of the records shall be made available to the Agency or USEPA upon verbal or written request.

A) The name and identification of the leaking component;

B) The date and time the leak is detected;

C) The action taken to repair the leak; and

D) The date and time the leak is repaired.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.967 Compliance Schedule

Every owner or operator of an emission ~~source~~unit subject to the control requirements of this Subpart shall comply with the requirements of this Subpart on and after a date consistent with Section 218.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.968 Testing

a) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with Section 218.966 of this Part, the owner or operator of a VOM emission ~~source~~unit subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 218.105 of this Part.

b) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART TT: OTHER EMISSION ~~SOURCES~~ UNITS

Section 218.980 Applicability

a) The requirements of this Subpart shall apply to a ~~plant's~~source's VOM emission ~~sources~~units, which are not included within any of the ~~source~~ categories specified in Subparts B, E, F, H, Q, R, S, T, V, X, Y, Z, AA, BB, PP, QQ, or RR of this Part, or are not exempted from permitting requirements pursuant to 35 Ill. Adm. Code 201.146, if the ~~plant~~source is subject to this Subpart. A ~~plant~~source is subject to this Subpart if it contains process emission ~~sources~~units, not regulated by Subparts B, E, F (excluding Section 218.204(l) of this Part), H (excluding Section 218.405 of this Part), Q, R, S, T (excluding Section 218.486 of this Part), V, X, Y ~~or~~, Z or BB of this Part, which as a group both:

1) H~~h~~ave maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

2) A~~a~~re not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction or operating~~ permit or a SIP revision.

b) If a ~~plant~~source ceases to fulfill the criteria of subsection (a) of this Section, the requirements of this Subpart shall continue to apply to an emission ~~source~~unit which was ever subject to the control requirements of Section 218.986 of this Part.

c) No limits under this Subpart shall apply to emission ~~sources~~units with emissions of VOM to the atmosphere less than or equal to 2.3 Mg (2.5 tons) per calendar year if the total emissions from such emission units ~~sources~~ not complying with Section 218.986 of this Part does not exceed 4.5 Mg (5.0 tons) per calendar year.

d) For the purposes of this Subpart, an emission ~~source~~ unit shall be considered regulated by a Subpart if it is subject to the limits of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. ~~its emissions are below the applicability cutoff level or if the source is covered by an exemption.~~

e) The control requirements in Subpart~~s, QQ, RR, SS and~~ TT shall not apply to sewage treatment plants~~,~~; vegetable oil extraction and processing; ~~plants,~~ coke ovens (including by-product recovery plants)~~,~~; fuel combustion units ~~sources,~~; bakeries~~,~~; barge loading facilities~~,~~; jet engine test cells~~,~~; ~~pharmaceutical manufacturing~~ production of polystyrene foam insulation board ~~(~~including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the ~~plant~~ source~~)~~, but not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin~~,~~; production of polystyrene foam packaging ~~(~~not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin~~;~~, and not including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the ~~plant~~source~~)~~,; and iron and steel production.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.983 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.986 Control Requirements

Every owner or operator of an emission ~~source~~unit subject to this Subpart shall comply with the requirements of subsection (a), (b), ~~or~~ (c), (d), or (e) below.

a) Emission capture and control equipment which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or

(Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 218.112, e.g., a coating line, a printing line, a process unit, a wastewater system, or other equipment, or is otherwise any part or activity at a source.)

b) For coating lines, the daily-weighted average VOM content shall not exceed 0.42 kg VOM/l (3.5 lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied during any day. Owners and operators complying with this Section are not required to comply with Section 218.301 of this Part, or

c) An alternative control plan which has been approved by the Agency and ~~approved by~~ the USEPA in a federally enforceable permit or as a SIP revision.

d) Non-contact process water cooling towers which are subject to the control requirements of this Subpart shall comply with the following control measures no later than March 15, 1995 or upon initial startup:

1) The owner or operator of a non-contact process water cooling tower shall perform the following actions to control emissions of volatile organic material (VOM) from such a tower:

A) Inspect and monitor such tower to identify leaks of VOM into the water, as further specified in subsection (d)(3) below;

B) When a leak is identified, initiate and carry out steps to identify the specific leaking component or components as soon as practicable, as further specified in subsection (d)(4) below.

C) When a leaking component is identified which:

i) Can be removed from service without disrupting production, remove the component from service;

ii) Cannot be removed from service without disrupting production, undertake repair of the component at the next reasonable opportunity to do so including any period when the component is out of service for scheduled maintenance, as further specified in subsection (d)(4) below;

D) Maintain records of inspection and monitoring activities, identification of leaks and leaking components, elimination and repair of leaks, and operation of equipment as related to these activities, as further specified in subsection (d)(5) below.

2) A VOM leak shall be considered to exist in a non-contact process water cooling water system if the VOM emissions or VOM content exceed background levels as determined by monitoring conducted in accordance with subsection (d)(3)(A) below.

3) The owner or operator of an non-contact process water cooling tower shall carry out an inspection and monitoring program to identify VOM leaks in the cooling water system.

A) The owner or operator of a non-contact process water cooling tower shall submit to the Agency a proposed monitoring program, accompanied by technical justification for the program, including justification for the sampling location(s), parameter(s) selected for measurement, monitoring and inspection frequency, and the criteria used relative to the monitored parameters to determine whether a leak exists as specified in subsection (d)(2) above.

B) This inspection and monitoring program for non-contact process water cooling towers shall include, but shall not be limited to:

i) Monitoring of each such tower with a water flow rate of 25,000 gallons per minute or more at a petroleum refinery at least weekly and monitoring of other towers at least monthly;

ii) Inspection of each such tower at least weekly if monitoring is not performed at least weekly.

C) This inspection and monitoring program shall be carried out in accordance with written procedures which the Agency shall specify as a condition in a federally enforceable operating permit. These procedures shall include the VOM background levels for the cooling tower as established by the owner or operator through monitoring; describe the locations at which samples will be taken; identify the parameter(s) to be measured, the frequency of measurements, and the procedures for monitoring each such tower, that is, taking of samples and other subsequent handling and analyzing of samples; provide the criteria used to determine that a leak exists as specified in subsection (d)(2) above; and describe the records which will be maintained.

D) A non-contact process water cooling tower is exempt from the requirements of subsections (d)(3)(B) and (d)(3)(C) above if all equipment where leaks of VOM into cooling water may occur is operated at a minimum pressure in the cooling water of at least 35 kPa greater than the maximum pressure in the process fluid.

4) The repair of a leak in a non-contact process water cooling tower shall be considered to be completed in an acceptable manner as follows:

A) Efforts to identify and locate the leaking components are initiated as soon as practicable, but in no event later than three days after detection of the leak in the cooling water tower;

B) Leaking components shall be repaired or removed from service as soon as possible but no later than 30 days after the leak in the cooling water tower is detected, unless the leaking components cannot be repaired until the next scheduled shutdown for maintenance.

5) The owner or operator of a non-contact process water cooling tower shall keep records as set forth below in this subsection. These records

shall be retained at a readily accessible location at the source and shall be available for inspection and copying by the Agency for at least 3 years:

A) Records of inspection and monitoring activity;

B) Records of each leak identified in such tower, with date, time and nature of observation or measured level of parameter;

C) Records of activity to identify leaking components, with date initiated, summary of components inspected with dates, and method of inspection and observations;

D) Records of activity to remove a leaking component from service or repair a leaking component, with date initiated and completed, description of actions taken and the basis for determining the leak in such tower has been eliminated. If the leaking component is not identified, repaired or eliminated within 30 days of initial identification of a leak in such tower, this report shall include specific reasons why the leak could not be eliminated sooner including all other intervening periods when the process unit was out of service, actions taken to minimize VOM losses prior to elimination of the leak and any actions taken to prevent the recurrence of a leak of this type.

6) The owner or operator of a non-contact process water cooling tower shall submit an annual report to the Agency which provides:

A) The number of leaks identified in each cooling tower;

B) A general description of activity to repair or eliminate leaks which were identified;

C) Identification of each leak which was not repaired in 30 days from the date of identification of a leak in such a tower, with description of the leaks, explanation why the leak was not repaired in 30 days;

D) Identification of any periods when required inspection and monitoring activities were not carried out.

e) Any leaks from components subject to the control requirements of this Subpart shall be subject to the following control measures by March 15, 1995:

1) Repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found, unless the leaking component cannot be repaired until the next process unit shutdown, in which case the leaking component must be repaired before the unit is restarted.

2) For any leak which cannot be readily repaired within one hour after detection, the following records, as set forth below in this subsection, shall be kept. These records shall be maintained by the owner or operator for a minimum of two years after the date on which they are made. Copies of the records shall be made available to the Agency or USEPA upon verbal or written request.

A) The name and identification of the leaking component;

B) The date and time the leak is detected;

C) The action taken to repair the leak; and

D) The date and time the leak is repaired.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.987 Compliance Schedule

Every owner or operator of an emissions ~~source~~unit which is subject to this Subpart shall comply with the requirements of this Subpart on and after a date consistent with Section 218.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.988 Testing

a) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with Section

218.986 of this Part, the owner or operator of a VOM emission ~~source~~unit subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 218.105 of this Part.

b) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART UU: RECORDKEEPING AND REPORTING ~~FOR NON-CTG SOURCES~~

Section 218.990 Exempt Emission ~~Sources~~Units

Upon request by the Agency, the owner or operator of an emission unit ~~source~~ which is exempt from the requirements of Subparts PP, QQ, RR, TT or Section 218.208(b) of this Part shall submit records to the Agency within 30 calendar days from the date of the request that document that the emission unit ~~source~~ is exempt from those requirements.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.991 Subject Emission ~~Sources~~Units

a) Any owner or operator of a VOM emission ~~source~~unit which is subject to the requirements of Subpart PP, QQ, RR or TT and complying by the use of emission capture and control equipment shall comply with the following:

1) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new emission ~~source~~unit, the owner or operator of the subject VOM emission ~~source~~unit shall demonstrate to the Agency that the subject emission ~~source~~unit will be in compliance on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date by submitting to the Agency all calculations and other supporting data, including descriptions and results of any tests the owner or operator may have performed.

2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject VOM ~~emission~~ source shall collect and record all of the following information each day and maintain

the information at the ~~facility~~<u>source</u> for a period of three years:

A) Control device monitoring data.

B) A log of operating time for the capture system, control device, monitoring equipment and the associated emission source.

C) A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

3) On and after a date consistent with Section 218.106 <u>of this Part</u>, the owner or operator of a subject VOM emission source shall notify the Agency in the following instances:

A) Any record showing a violation of the requirements of Subpart PP, QQ, RR or TT shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of subsection (b)(1) <u>of this Section</u>. Upon changing the method of compliance with Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of subsection (b) <u>of this Section</u>.

4) <u>Testing</u>

A) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with this Subpart, the owner or operator of a VOM emission source subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 218.105 <u>of this Part</u>.

B) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

b) Any owner or operator of a coating line which is subject to the requirements of Subpart PP or TT and complying by means of the daily-weighted average VOM content limitation shall comply with the following:

1) By a date consistent with Section 218.106 <u>of this Part</u>, or upon initial start-up of a coating line subject to Subpart PP or TT, the owner or operator of the subject coating line shall certify to the Agency that the coating line will be in compliance on and after a date consistent with Section 218.106 <u>of this Part</u>, or on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each coating line which will comply by means of the daily-weighted average VOM content limitation.

B) The name and identification number of each coating as applied on each coating line.

C) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

D) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line.

E) The method by which the owner or operator will create and maintain records each day as required in subsection (b)(2) <u>of this Section</u>.

F) An example of the format in which the records required in subsection (b)(2) <u>of this Section</u> will be kept.

2) On and after a date consistent with Section 218.106 <u>of this Part</u>, or on and after the initial start-up date, the owner or operator of a subject coating line shall collect and record all of the following information each day for each coating

line and maintain the information at the ~~facility~~source for a period of three years:

A) The name and identification number of each coating as applied on each coating line.

B) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

C) The daily-weighted average VOM content of all coatings as applied on each coating line as defined in Section 218.104 of this Part.

3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject coating line shall notify the Agency in the following instances:

A) Any record showing violation of the requirements of Subpart PP or TT shall be reported by sending a copy of such record to the Agency and the USEPA within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Subpart PP or TT from the use of complying coatings to the use capture systems and control devices, the owner or operator shall comply with all requirements of subsection (a)(1) of this Section. Upon changing the method of compliance with Subpart PP or TT from the use of complying coatings to the use capture systems and control devices, the owner or operator shall comply with all requirements of subsection (a) of this Section.

c) Any owner or operator of a VOM ~~emission~~ source which is subject to the requirements of Subpart PP, QQ, RR or TT and complying by means of an alternative control plan which has been approved by the Agency and approved by the USEPA as a SIP revision shall comply with the recordkeeping and reporting requirements specified in the alternative control plan.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.Appendix A
List of Chemicals Defining Synthetic Organic Chemical and Polymer Manufacturing

CAS No. [a]	Chemical
105-57-7	Acetal
75-07-0	Acetaldehyde
107-89-1	Acetaldol
60-35-5	Acetamide
103-84-4	Acetanilide
64-19-7	Acetic acid
108-24-7	Acetic anhydride
67-64-1	Acetone
75-86-5	Acetone cyanohydrin
75-05-8	Acetonitrile
98-86-2	Acetophenone
75-36-5	Acetyl chloride
74-86-2	Acetylene
107-02-8	Acrolein
79-06-1	Acrylamide
79-10-7	Acrylic acid & esters
107-13-1	Acrylonitrile
124-04-9	Adipic acid
111-69-3	Adiponitrile
(b)	Alkyl naphthalenes
107-18-6	Allyl alcohol
107-05-1	Allyl chloride
1321-11-5	Aminobenzoic acid
111-41-1	Aminoethylethanolamine
123-30-8	p-aminophenol
628-63-7, 123-92-2	Amyl acetates
71-41-0[c]	Amyl alcohols
110-58-7	Amyl amine
543-59-9	Amyl chloride
110-68-7[c]	Amyl mercaptans
1322-06-1	Amyl phenol
62-53-3	Aniline
142-04-1	Aniline hydrochloride
29191-52-4	Anisidine
100-66-3	Anisole
118-92-3	Anthranilic acid
84-65-1	Anthraquinone
100-52-7	Benzaldehyde
55-21-0	Benzamide
71-43-2	Benzene
98-48-6	Benzenedisulfonic acid
CAS No. [a]	Chemical
98-11-3	Benzenesulfonic acid
134-81-6	Benzil
76-93-7	Benzilic acid

65-85-0	Benzoic acid
119-53-9	Benzoin
100-47-0	Benzonitrile
119-61-9	Benzophenone
98-07-7	Benzotrichloride
98-88-4	Benzoyl chloride
100-51-6	Benzyl alcohol
100-46-9	Benzylamine
120-51-4	Benzyl benzoate
100-44-7	Benzyl chloride
98-87-3	Benzyl dichloride
92-52-4	Biphenyl
80-05-7	Bisphenol A
10-86-1	Bromobenzene
27497-51-4	Bromonaphthalene
106-99-0	Butadiene
106-98-9	1-butene
123-86-4	n-butyl acetate
141-32-2	n-butyl acrylate
71-36-3	n-butyl alcohol
78-92-2	s-butyl alcohol
75-65-0	t-butyl alcohol
109-73-9	n-butylamine
13952-84-6	s-butylamine
75-64-9	t-butylamine
98-73-7	p-tert-butyl benzoic acid
107-88-0	1,3-butylene glycol
123-72-8	n-butyraldehyde
107-92-6	Butyric acid
106-31-0	Butyric anhydride
109-74-0	Butyronitrile
105-60-2	Caprolactam
75-1-50	Carbon disulfide
558-13-4	Carbon tetrabromide
55-23-5	Carbon tetrachloride
9004-35-7	Cellulose acetate
79-11-8	Chloroacetic acid
108-42-9	m-chloroaniline
95-51-2	o-chloroaniline
106-47-8	p-chloroaniline
35913-09-8	Chlorobenzaldehyde
108-90-7	Chlorobenzene
118-91-2, 535-80-8,	Chlorobenzoic acid
<u>CAS No.</u> [a]	<u>Chemical</u>
74-11-3[c]	
2136-81-4, 2136-89-2, 5216-25-1[c]	Chlorobenzotrichloride
1321-03-5	Chlorobenzoyl chloride
75-45-6	Chlorodifluoroethane

25497-29-4	Chlorodifluoromethane
67-66-3	Chloroform
25586-43-0	Chloronaphthalene
88-73-3	o-chloronitrobenzene
100-00-5	p-chloronitrobenzene
25167-80-0	Chlorophenols
126-99-8	Chloroprene
7790-94-5	Chlorosulfonic acid
108-41-8	m-chlorotoluene
95-49-8	o-chlorotoluene
106-43-4	p-chlorotoluene
75-72-9	Chlorotrifluoromethane
108-39-4	m-cresol
95-48-7	o-cresol
106-44-5	p-cresol
1319-77-3	Mixed cresols
1319-77-3	Cresylic acid
4170-30-0	Crotonaldehyde
3724-65-0	Crontonic acid
98-82-8	Cumene
80-15-9	Cumene hydroperoxide
372-09-8	Cyanoacetic acid
506-77-4	Cyanogen chloride
108-80-5	Cyanuric acid
108-77-0	Cyanuric chloride
110-82-7	Cyclohexane
108-93-0	Cyclohexanol
108-94-1	Cyclohexanone
110-83-8	Cyclohexene
108-91-8	Cyclohexylamine
111-78-4	Cyclooctadiene
112-30-1	Decanol
123-42-2	Diacetone alcohol
27576-04-1	Diaminobenzoic acid
95-76-1,	Dichloroaniline
95-82-9,	
554-00-7,	
608-27-5,	
608-31-1,	
626-43-7,	
CAS No.[a]	Chemical
27134-27-6,	
57311-92-9[c]	
541-73-1	m-dichlorobenzene
95-50-1	o-dichlorobenzene
106-46-7	p-dichlorobenzene
75-71-8	Dichlorodifluoromethane
111-44-4	Dichloroethyl ether
107-06-2	1,2-dichloroethane (EDC)
96-23-1	Dichlorohydrin
26952-23-8	Dichloropropene

101-83-7	Dicyclohexylamine
109-89-7	Diethylamine
111-46-6	Diethylene glycol
112-36-7	Diethylene glycol diethyl ether
111-96-6	Diethylene glycol dimethyl ether
112-34-5	Diethylene glycol monobutyl ether
124-17-7	Diethylene glycol mononbutyl ether acetate
111-90-0	Diethylene glycol monoethyl ether
112-15-2	Diethylene glycol monoethyl ether acetate
111-77-3	Diethylene glycol monomethyl ether
64-67-5	Diethyl sulfate
75-37-6	Difluoroethane
25167-70-8	Diisobutylene
26761-40-0	Diisodecyl phthalate
27554-26-3	Diisooctyl phthalate
674-82-8	Diketene
124-40-3	Dimethylamine
121-69-7	N,N-dimethylaniline
115-10-6	N,N-dimethyl ether
68-12-2	N,N-dimethylformamide
57-14-7	Dimethylhydrazine
77-78-1	Dimethyl sulfate
75-18-3	Dimethyl sulfide
67-68-5	Dimethyl sulfoxide
120-61-6	Dimethyl terephthalate
99-34-3	3,5-dinitrobenzoic acid
51-28-5	Dinitrophenol
	Dinitrotoluene
123-91-1	Dioxane
646-06-0	Dioxilane
<u>CAS No.</u> [a]	<u>Chemical</u>
122-39-4	Diphenylamine
101-84-4	Diphenyl oxide
102-08-9	Diphenyl thiourea
25265-71-8	Dipropylene glycol
25378-22-7	Dodecene
28675-17-4	Dodecylaniline
27193-86-8	Dodecylphenol
106-89-8	Epichlorohydrin
64-17-5	Ethanol
141-43-5[c]	Ethanolamines
141-78-6	Ethyl acetate
141-97-9	Ethyl acetoacetate
140-88-5	Ethyl acrylate

75-04-7	Ethylamine
100-41-4	Ethylbenzene
74-96-4	Ethyl bromide
9004-57-3	Ethylcellulose
75-00-3	Ethyl chloride
105-39-5	Ethyl chloroacetate
105-56-6	Ethylcyanoacetate
74-85-1	Ethylene
96-49-1	Ethylene carbonate
107-07-3	Ethylene chlorohydrin
107-15-3	Ethylenediamine
106-93-4	Ethylene dibromide
107-21-1	Ethylene glycol
111-55-7	Ethylene glycol diacetate
110-71-4	Ethylene glycol dimethyl ether
111-76-2	Ethylene glycol monobutyl ether
112-07-2	Ethylene glycol monobutyl ether acetate
110-80-5	Ethylene glycol monoethyl ether
111-15-9	Ethylene glycol monoethyl ether acetate
109-86-4	Ethylene glycol monoethyl ether
110-49-6	Ethylene glycol monomethyl ether acetate
122-99-6	Ethylene glycol monophenyl ether
2807-30-9	Ethylene glycol monopropyl ether
75-21-8	Ethylene oxide
60-29-7	Ethyl ether
104-76-7	2-ethylhexanol
122-51-0	Ethyl orthoformate
95-92-1	Ethyl oxalate
41892-71-1	Ethyl sodium oxaloacetate
<u>CAS No.</u> [a]	<u>Chemical</u>
50-00-0	Formaldehyde
75-12-7	Formamide
64-18-6	Formic acid
110-17-8	Fumaric acid
98-01-1	Furfural
56-81-5	Glycerol (Synthetic)
26545-73-7	Glycerol dichlorohydrin
25791-96-2	Glycerol triether
56-40-6	Glycine
107-22-2	Glyoxal
118-74-1	Hexachlorobenzene
67-72-1	Hexachloroethane
36653-82-4	Hexadecyl alcohol
124-09-4	Hexamethylenediamine
629-11-8	Hexamethylene glycol
100-97-0	Hexamethylenetetramine

74-90-8	Hydrogen cyanide
123-31-9	Hydroquinone
99-96-7	p-hydroxybenzoic acid
26760-64-5	Isoamylene
78-83-1	Isobutanol
110-19-0	Isobutyl acetate
115-11-7	Isobutylene
78-84-2	Isobutyraldehyde
79-31-2	Isobutyric acid
25339-17-7	Isodecanol
26952-21-6	Isooctyl alcohol
78-78-4	Isopentane
78-59-1	Isophorone
121-91-5	Isophthalic acid
78-79-5	Isoprene
67-63-0	Isopropanol
108-21-4	Isopropyl acetate
75-31-0	Isopropylamine
75-29-6	Isopropyl chloride
25168-06-3	Isopropylphenol
463-51-4	Ketene
(b)	Linear alkyl sulfonate*
123-01-3	Linear alkylbenzene
110-16-7	Maleic acid
108-31-6	Maleic anhydride
6915-15-7	Malic acid
141-79-7	Mesityl oxide
121-47-1	Metanilic acid
79-41-4	Methacrylic acid
563-47-3	Methallyl chloride
67-56-1	Methanol
CAS No. *	Chemical
79-20-9	Methyl acetate
105-45-3	Methyl acetoacetate
74-89-5	Methylamine
100-61-8	n-methylaniline
74-83-9	Methyl bromide
37365-71-2	Methyl butynol
74-87-3	Methyl chloride
108-87-2	Methyl cyclohexane
1331-22-2	Methyl cyclohexanone
75-09-2	Methylene chloride
101-77-9	Methylene dianiline
101-68-8	Methylene diphenyl diisocyanate
78-93-3	Methyl ethyl ketone
107-31-3	Methyl formate
108-11-2	Methyl isobutyl carbinol
108-10-1	Methyl isobutyl ketone
80-62-6	Methyl methacrylate
77-75-8	Methylpentynol
98-83-9	B-methylstyrene

110-91-8	Morpholine
85-47-2	a-naphthalene sulfonic acid
120-18-3	B-naphthalene sulfonic acid
90-15-3	a-naphthol
135-19-3	B-naphthol
75-98-9	Neopentanoic acid
88-74-4	o-nitroaniline
100-01-6	p-nitroaniline
91-23-6	o-nitroanisole
100-17-4	p-nitroanisole
98-95-3	Nitrobenzene
27178-83-2[c]	Nitrobenzoic acid (o, m & p)
79-24-3	Nitroethane
75-52-5	Nitromethane
88-75-5	Nitrophenol
25322-01-4	Nitropropane
1321-12-6	Nitrotoluene
27215-95-8	Nonene
25154-52-3	Nonylphenol
27193-28-8	Octylphenol
123-63-7	Paraldehyde
115-77-5	Pentaerythritol
109-66-0	n-pentane
109-67-1	1-pentene
127-18-4	Perchloroethylene
594-42-3	Perchloromethyl mercaptan
94-70-2	o-phenetidine
156-43-4	p-phenetidine
CAS No. [a]	Chemical
108-95-2	Phenol
98-67-9, 585-38-6, 609-46-1, 133-39-7[c]	Phenolsulfonic acids
91-40-7	Phenyl anthranilic acid
(b)	Phenylenediamine
75-44-5	Phosgene
85-44-9	Phthalic anhydride
85-41-6	Phthalimide
108-99-6	b-picoline
110-85-0	Piperazine
9003-29-6, 25036-29-7[c]	Polybutenes
25322-68-3	Polyethylene glycol
25322-69-4	Polypropylene glycol
123-38-6	Propionaldehyde
79-09-4	Propionic acid
71-23-8	n-propyl alcohol
107-10-8	Propylamine
540-54-5	Propyl chloride
115-07-1	Propylene

127-00-4	Propylene chlorohydrin
78-87-5	Propylene dichloride
57-55-6	Propylene glycol
75-56-9	Propylene oxide
110-86-1	Pyridine
106-51-4	Quinone
108-46-3	Resorcinol
27138-57-4	Resorcylic acid
69-72-7	Salicylic acid
127-09-3	Sodium acetate
532-32-1	Sodium benzoate
9004-32-4	Sodium carboxymethyl cellulose
3926-62-3	Sodium chloroacetate
141-53-7	Sodium formate
139-02-6	Sodium phenate
110-44-1	Sorbic acid
100-42-5	Styrene
110-15-6	Succinic acid
110-61-2	Succinitrile
121-57-3	Sulfanilic acid
126-33-0	Sulfolane
1401-55-4	Tannic acid
100-21-0	Terephthalic acid
79-34-5[c]	Tetrachloroethanes
CAS No.[a]	Chemical
117-08-8	Tetrachlorophthalic anhydride
78-00-2	Tetraethyllead
119-64-2	Tetrahydronaphthalene
85-43-8	Tetrahydrophthalic anhydride
75-74-1	Tetramethyllead
110-60-1	Tetramethylenediamine
110-18-9	Tetramethylethylenediamine
108-88-3	Toluene
95-80-7	Toluene-2,4-diamine
584-84-9	Toluene-2,4-diisocyanate
26471-62-5	Toluene diisocyanates (mixture)
1333-07-9	Toluene sulfonamide
104-15-4[c]	Toluenesulfonic acids
98-59-9	Toluene sulfonyl chloride
26915-12-8	Toluidines
87-61-6, 108-70-3, 120-82-1[c]	Trichlorobenzenes
71-55-6	1,1,1-trichloroethane
79-00-5	1,1,2-trichloroethane
79-01-6	Trichloroethylene
75-69-4	Trichlorofluoromethane
96-18-4	1,2,3-trichloropropane
76-13-1	1,1,2-trichloro-1,2,2-trifluoro ethane
121-44-8	Triethylamine

112-27-6	Triethylene glycol
112-49-2	Triethylene glycoldimethyl ether
7756-94-7	Triisobutylene
75-50-3	Trimethylamine
57-13-6	Urea
108-05-4	Vinyl acetate
75-01-4	Vinyl chloride
75-35-4	Vinylidene chloride
25013-15-4	Vinyl toluene
1330-20-7	Xylenes (mixed)
95-47-6	o-xylene
106-42-3	p-xylene
1300-71-6	Xylenol
1300-73-8	Xylidine
(b)	methyl tert-butyl ether
9002-88-4	Polyethylene
(b)	Polypropylene
9009-53-6	Polystyrene

a) CAS numbers refer to the Chemical Abstracts Registery numbers assigned to specific chemicals, isomers or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

b) No CAS number(s) have been assigned to this chemical, to its isomers, or mixtures containing these chemicals.

c) CAS numbers for some of the isomers are listed: the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

(Source: Amended at ___ Ill. Reg. ______, effective ______________________)

Section 218.Appendix B
VOM Measurement Techniques for Capture Efficiency

Procedure G.1 - Captured VO~~C~~M Emissions

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the volatile organic materials~~compounds~~ (VO~~C~~M) content of captured gas streams. It is intended to be used as a segment in the development of liquid/gas or gas/gas protocols for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations. The procedure may not be acceptable in certain site-specific situations, e.g., when: (1) direct fired heaters or other circumstances affect the quantity of VO~~C~~M at the control device inlet; and (2) particulate organic aerosols are formed in the process and are present in the captured emissions.

1.2 Principle. The amount of VO~~C~~M captured (G) is calculated as the sum of the products of the VO~~C~~M content (C_{Gj}), the flow rate (Q_{Gj}), and the sample time (T_C) from each captured emissions point.

1.3 Estimated Measurement Uncertainty. The measurement uncertainties are estimated for each captured or fugitive emissions point as follows: Q_{Gj} = 5.5 percent and C_{Gj} = ±5.0 percent. Based on these numbers, the probable uncertainty for G is estimated at about ±7.4 percent.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Gas VO~~C~~M Concentration. A schematic of the measurement system is shown in Figure 1. The main components are described below:

2.1.1 Sample Probe. Stainless steel, or equivalent. The probe shall be heated to prevent VO~~C~~M condensation.

2.1.2 Calibration Valve Assembly. Three-way valve assembly at the outlet of sample probe to direct the zero and calibration gases to the analyzer. Other methods, such as quick-connect lines, to route calibration gases to the outlet of the sample probe are acceptable.

2.1.3 Sample Line. Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line must be heated to prevent condensation.

2.1.4 Sample Pump. A leak-free pump, to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The components of the pump that contact the gas stream shall be constructed of stainless steel or Teflon. The sample pump must be heated to prevent condensation.

2.1.5 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent. The flow rate control valve and rotameter must be heated to prevent condensation. A control valve may also be located on the sample pump bypass loop to assist in controlling the sample pressure and flow rate.

2.1.6 Sample Gas Manifold. Capable of diverting a portion of the sample gas stream to the flame ionization analyzer (FIA), and the remainder to the bypass discharge vent. The manifold components shall be constructed of stainless steel or Teflon. If captured or fugitive emissions are to be measured at multiple locations, the measurement system shall be designed to use separate sampling probes, lines, and pumps for each measurement location and a common sample gas manifold and FIA. The sample gas manifold and connecting lines to the FIA must be heated to prevent condensation.

2.1.7 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however, other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.1.7.1 Zero Drift. Less than ±3.0 percent of the span value.

2.1.7.2 Calibration Drift. Less than ±3.0 percent of the span value.

2.1.7.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.1.7.4 Response Time. Less than 30 seconds.

2.1.8 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.1.9 Calibration and Other Gases. Gases used for calibration, fuel, and combustion air (if required) are contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.1.9.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.1.9.2 Carrier Gas. High purity air with less than 1 ppm of organic material (as propane or carbon equivalent) or less than 0.1 percent of the span value, whichever is greater.

2.1.9.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.1.10 Particulate Filter. An in-stack or an out-of-stack glass fiber filter is recommended if exhaust gas particulate loading is significant. An out-of-stack filter must be heated to prevent any condensation unless it can be demonstrated that no condensation occurs.

2.2 Captured Emissions Volumetric Flow Rate.

2.2.1 Method 2 or 2A Apparatus. For determining volumetric flow rate.

2.2.2 Method 3 Apparatus and Reagents. For determining molecular weight of the gas stream. An estimate of the molecular weight of the gas stream may be used if it can be justified.

2.2.3 Method 4 Apparatus and Reagents. For determining moisture content, if necessary.

3. DETERMINATION OF VOLUMETRIC FLOW RATE OF CAPTURED EMISSIONS

3.1 Locate all points where emissions are captured from the affected ~~facility~~emission unit. Using Method 1, determine the sampling points. Be sure to check each site for cyclonic or swirling flow.

3.2 Measure the velocity at each sampling site at least once every hour during each sampling run using Method 2 or 2A.

4. DETERMINATION OF VO~~C~~M CONTENT OF CAPTURED EMISSIONS

4.1 Analysis Duration. Measure the VO~~C~~M responses at each captured emissions point during the entire test run or, if applicable, while the process is operating. If there are multiple captured emission locations, design a sampling system to allow a single FIA to be used to determine the VO~~C~~M responses at all sampling locations.

4.2 Gas VO~~C~~M Concentration.

4.2.1 Assemble the sample train as shown in Figure 1. Calibrate the FIA according to the procedure in Section 5.1.

4.2.2 Conduct a system check according to the procedure in Section 5.3.

4.2.3 Install the sample probe so that the probe is centrally located in the stack, pipe, or duct, and is sealed tightly at the stack port connection.

4.2.4 Inject zero gas at the calibration valve assembly. Allow the measurement system response to reach zero. Measure the system response time as the time required for the system to reach the effluent concentration after the calibration valve has been returned to the effluent sampling position.

4.2.5 Conduct a system check before and a system drift check after each sampling run according to the procedures in Sections 5.2 and 5.3. If the drift check following a run indicates unacceptable performance, the run is not valid. The tester may elect to perform system drift checks during the run not to exceed one drift check per hour.

4.2.6 Verify that the sample lines, filter, and pump temperatures are 120 ±5°C.

4.2.7 Begin sampling at the start of the test period and continue to sample during the entire run. Record the starting and ending times and any required process information as appropriate. If multiple captured emission locations are sampled using a single FIA, sample at each location for the same amount of time (e.g., 2 minutes) and continue to switch from one location to another for the entire test run. Be sure that total sampling time at each location is the same at the end of the test run. Collect at least 4 separate measurements from each sample point during each hour of testing. Disregard the measurements at each sampling location until two times the response time of the measurement system has elapsed. Continue sampling for at least 1 minute and record the concentration measurements.

4.3 Background Concentration.

4.3.1 Locate all NDO's of the TTE. A sampling point shall be centrally located outside of the TTE at 4 equivalent diameters from each NDO, if possible. If there are more than 6 NDO's, choose 6 sampling points evenly spaced among the NDO's.

4.3.2 Assemble the sample train as shown in Figure 2. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and 5.3. NOTE: This sample train shall be a separate sampling train from the one to measure the captured emissions.

4.3.3 Position the probe at the sampling location.

4.3.4 Determine the response time, conduct the system check and sample according to the procedures described in Sections 4.2.4 to 4.2.7.

4.4 Alternative Procedure. The direct interface sampling and analysis procedure described in Section 7.2 of Method 18 may be used to determine the gas VOC concentration. The system must be designed to collect and analyze at least one sample every 10 minutes.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. Select the calibration gas that most closely approximates the concentration of the captured emissions for conducting the drift checks. Introduce the zero and calibration gas at the calibration valve assembly and verify that the appropriate gas flow rate and pressure are present at the FIA. Record the measurement system responses to the zero and calibration gases. The performance of the system is acceptable if the difference between the drift check measurement and the value obtained in Section 5.1 is less than 3 percent of the span value. Conduct the system drift checks at the end of each run.

5.3 System Check. Inject the high range calibration gas at the inlet of the sampling probe and record the response. The performance of the system is acceptable if the measurement system response is within 5 percent of the value obtained in Section 5.1 for the high range calibration gas. Conduct a svstem check before and after each test run.

5.4 Analysis Audit. Immediately before each test analyze an audit cylinder as described in Section 5.2. The analysis audit must agree with the audit cylinder concentration within 10 percent.

6. NOMENCLATURE

A_i = area of NDO i, ft^2~~.~~;

A_N = total area of all NDO's in the enclosure, ft^2~~.~~;

C_{Bi} = corrected average VO~~C~~M concentration of background emissions at point i, ppm propane~~.~~;

C_B = average background concentration, ppm propane~~.~~;

C_{Gj} = corrected average VO~~C~~M concentration of captured emissions at point j, ppm propane~~.~~;

C_{DH} = average measured concentration for the drift check calibration gas, ppm propane~~.~~;

C_{D0} = average system drift check concentration for zero concentration gas, ppm propane~~.~~;

C_H = actual concentration of the drift check calibration gas, ppm propane~~.~~;

C_i = uncorrected average background VO~~C~~M concentration measured at point i, ppm propane~~.~~;

C_j = uncorrected average VO~~C~~M concentration measured at point j, ppm propane~~.~~;

G = total VO~~C~~M content of captured emissions, kg~~.~~;

K_1 = 1.830×10^{-6} kg/(m^3-ppm)~~.~~;

n = number of measurement points~~.~~;

Q_{Gj} = average effluent volumetric flow rate corrected to standard conditions at captured emissions point j, m^3/min~~.~~;

T_C = total duration of captured emissions sampling run, min.

7. CALCULATIONS

7.1 Total VO~~C~~M Captured Emissions.

$$G = \sum_{j=1}^{n} (C_{Gj} - C_B)\, Q_{Gj}\, T_C\, K_1 \qquad \text{Eq. 1}$$

7.2 VO~~C~~M Concentration of the Captured Emissions at Point j.

$$C_{Gj} = (C_j - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 2}$$

7.3 Background VO~~C~~M Concentration at Point i.

$$C_{Bi} = (C_i - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 3}$$

7.4 Average Background Concentration.

$$C_B = \frac{\sum_{i-1}^{n} C_{Bi}\, A_i}{nA_N} \qquad \text{Eq. 4}$$

NOTE: If the concentration at each point is within 20 percent of the average concentration of all points, the terms "A_i" and "A_N" may be deleted from Equation 4.

Procedure G.2 - Captured VO~~C~~M Emissions (Dilution Technique)

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the volatile organic ~~compounds~~materials (VO~~C~~M) content of captured gas streams. It is intended to be used as a segment in the development of a gas/gas protocol in which fugitive emissions are measured for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations. A dilution system is used to reduce the VO~~C~~M concentration of the captured emission to about the same concentration as the fugitive emissions. The procedure may not be acceptable in certain site-specific situations, e.g., when: (1) direct fired heaters or other circumstances affect the quantity of VO~~C~~M at the control device inlet; and (2) particulate organic aerosols are formed in the process and are present in the captured emissions.

1.2 Principle. The amount of VO~~C~~M captured (G) is calculated as the sum of the products of the VO~~C~~M content (C_{Gj}), the flow rate (Q_{Gj}), and the sampling time (T_C) from each captured emissions point.

1.3 Estimated Measurement Uncertainty. The measurement uncertainties are estimated for each captured or fugitive emissions point as follows: Q_{Gj} = ±5.5 percent and C_{Gj} = ±5 percent. Based on these numbers, the probable uncertainty for G is estimated at about ±7.4 percent.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Gas VO~~C~~M Concentration. A schematic of the measurement system is shown in Figure 1. The main components are described below:

2.1.1 Dilution System. A Kipp in-stack dilution probe and controller or similar device may be used. The dilution rate may be changed by substituting different critical orifices or adjustments of the aspirator supply pressure. The dilution system shall be heated to prevent VO~~C~~M condensation. Note: An out-of-stack dilution device may be used.

2.1.2 Calibration Valve Assembly. Three-way valve assembly at the outlet of sample probe to direct the zero and calibration gases to the analyzer. Other methods, such as quick-connect lines, to route calibration gases to the outlet of the sample probe are acceptable.

2.1.3 Sample Line. Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line must be heated to prevent condensation.

2.1.4 Sample Pump. A leak-free pump, to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The components of the pump that contact the gas stream shall be constructed of stainless steel or Teflon. The sample pump must be heated to prevent condensation.

2.1.5 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent. The flow control valve and rotameter must be heated to prevent condensation. A control valve may also be located on the sample pump bypass loop to assist in controlling the sample pressure and flow rate.

2.1.6 Sample Gas Manifold. Capable of diverting a portion of the sample gas stream to the flame ionization analyzer (FIA), and the remainder to the bypass discharge vent. The manifold components shall be constructed of stainless steel or Teflon. If captured or fugitive emissions are to be measured at multiple locations, the measurement system shall be designed to use separate sampling probes, lines, and pumps for each measurement location and a common sample gas manifold and FIA. The sample gas manifold and connecting lines to the FIA must be heated to prevent condensation.

2.1.7 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however, other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.1.7.1 Zero Drift. Less than ±3.0 percent of the span value.

2.1.7.2 Calibration Drift. Less than ±3.0 percent of the span value.

2.1.7.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.1.7.4 Response Time. Less than 30 seconds.

2.1.8 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.1.9 Calibration and Other Gases. Gases used for calibration, fuel, and combustion air (if required) are contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.1.9.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.1.9.2 Carrier Gas and Dilution Air Supply. High purity air with less than 1 ppm of organic material (as propane or carbon equivalent) or less than 0.1 percent of the span value, whichever is greater.

2.1.9.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.1.9.4 Dilution Check Gas. Gas mixture standard containing propane in air, approximately half the span value after dilution.

2.1.10 Particulate Filter. An in-stack or an out-of-stack glass fiber filter is recommended if exhaust gas particulate loading is significant. An out-of-stack filter must be heated to prevent any condensation unless it can be demonstrated that no condensation occurs.

2.2 Captured Emissions Volumetric Flow Rate.

2.2.1 Method 2 or 2A Apparatus. For determining volumetric flow rate.

2.2.2 Method 3 Apparatus and Reagents. For determining molecular weight of the gas stream. An estimate of the molecular weight of the gas stream may be used if it can be justified.

2.2.3 Method 4 Apparatus and Reagents. For determining moisture content, if necessary.

3. DETERMINATION OF VOLUMETRIC FLOW RATE OF CAPTURED EMISSIONS

3.1 Locate all points where emissions are captured from the affected facility. Using Method 1, determine the sampling points. Be sure to check each site for cyclonic or swirling flow.

3.2 Measure the velocity at each sampling site at least once every hour during each sampling run using Method 2 or 2A.

4. DETERMINATION OF VO~~C~~M CONTENT OF CAPTURED EMISSIONS

4.1 Analysis Duration. Measure the VO~~C~~M responses at each captured emissions point during the entire test run or, if applicable, while the process is operating. If there are a multiple captured emissions locations, design a sampling system to allow a single FIA to be used to determine the VO~~C~~M responses at all sampling locations.

4.2 Gas VO~~C~~M Concentration.

4.2.1 Assemble the sample train as shown in Figure 1. Calibrate the FIA according to the procedure in Section 5.1.

4.2.2 Set the dilution ratio and determine the dilution factor according to the procedure in Section 5.3.

4.2.3 Conduct a system check according to the procedure in Section 5.4.

4.2.4 Install the sample probe so that the probe is centrally located in the stack, pipe, or duct, and is sealed tightly at the stack port connection.

4.2.5 Inject zero gas at the calibration valve assembly. Measure the system response time as the time required for the system to reach the effluent concentration after the calibration valve has been returned to the effluent sampling position.

4.2.6 Conduct a system check before and a system drift check after each sampling run according to the procedures in Sections 5.2 and 5.4. If the drift check following a run indicates unacceptable performance, the run is not valid. The tester may elect to perform system drift checks during the run not to exceed one drift check per hour.

4.2.7 Verify that the sample lines, filter, and pump temperatures are 120 ±5°C.

4.2.8 Begin sampling at the start of the test period and continue to sample during the entire run. Record the starting and ending times and any required process information as appropriate. If multiple captured emission locations are sampled using a single FIA, sample at each location for the same amount of time (e.g., 2 minutes) and continue to switch from one location to another for the entire test run. Be sure that total sampling time at each location is the same at the end of the test run. Collect at least 4 separate measurements from each sample point during each hour of testing. Disregard the measurements at each sampling location until two times the response time of the measurement system has elapsed. Continue sampling for at least 1 minute and record the concentration measurements.

4.3 Background Concentration.

4.3.1 Locate all NDO's of the TTE. A sampling point shall be centrally located outside of the TTE at 4 equivalent diameters from each NDO, if possible. If there are more than 6 NDO's, choose 6 sampling points evenly spaced among the NDO's.

4.3.2 Assemble the sample train as shown in Figure 2. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and
5.4.

4.3.3 Position the probe at the sampling location.

4.3.4 Determine the response time, conduct the system check and sample according to the procedures described in Sections 4.2.4 to 4.2.8.

4.4 Alternative Procedure. The direct interface sampling and analysis procedure described in Section 7.2 of Method 18 may be used to determine the gas VO~~C~~M concentration. The system must be designed to collect and analyze at least one sample every 10 minutes.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system after the dilution system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. Select the calibration gas that most closely approximates the concentration of the diluted captured emissions for conducting the drift checks. Introduce the zero and calibration gas at the calibration valve assembly and verify that the appropriate gas flow rate and pressure are present at the FIA. Record the measurement system responses to the zero and calibration gases. The performance of the system is acceptable if the difference between the drift check measurement and the value obtained in Section 5.1 is less than 3 percent of the span value. Conduct the system drift check at the end of each run.

5.3 Determination of Dilution Factor. Inject the dilution check gas into the measurement system before the dilution system and record the response. Calculate the dilution factor using Equation 3.

5.4 System Check. Inject the high range calibration gas at the inlet to the sampling probe while the dilution air is turned off. Record the response. The performance of the system is acceptable if the measurement system response is within 5 percent of the value obtained in Section 5.1 for the high range calibration gas. Conduct a system check before and after each test run.

5.5 Analysis Audit. Immediately before each test analyze an audit cylinder as described in Section 5.2. The analysis audit must agree with the audit cylinder concentration within 10 percent.

6. NOMENCLATURE

A_i = area of NDO i, ft^2~~.~~;

A_N = total area of all NDO's in the enclosure, ft^2~~.~~;

C_A = actual concentration of the dilution check gas, ppm propane~~.~~;

C_{Bi} = corrected average VO~~C~~M concentration of background emissions at point i, ppm propane~~.~~;

C_B = average background concentration, ppm propane~~.~~;

C_{DH} = average measured concentration for the drift check calibration gas, ppm propane~~.~~;

C_{D0} = average system drift check concentration for zero concentration gas, ppm propane~~.~~;

C_H = actual concentration of the drift check calibration gas, ppm propane~~.~~;

C_i = uncorrected average background VO~~C~~M concentration measured at point i, ppm propane~~.~~;

C_j = uncorrected average VO~~C~~M concentration measured at point j, ppm propane~~.~~;

C_M = measured concentration of the dilution check gas, ppm propane~~.~~;

DF = dilution factor~~.~~;

G = total VOCM content of captured emissions, kg~~.~~;

K_1 = 1.830×10^{-6} kg/(m^3-ppm)~~.~~;

n = number of measurement points~~.~~;

Q_{Gj} = average effluent volumetric flow rate corrected to standard conditions at captured emissions point j, m^3/min~~.~~;

T_C = total duration of capture efficiency sampling run, min.

7. CALCULATIONS

7.1 Total VO~~C~~M Captured Emissions.

$$G = \sum_{j=1}^{n} C_{Gj}\, Q_{Gj}\, T_C\, K_1 \qquad \text{Eq. 1}$$

7.2 VO~~C~~M Concentration of the Captured Emissions at Point j.

$$C_{Gj} = DF\,(C_j - C_{D0})\,\frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 2}$$

7.3 Dilution Factor.

$$D_F = \frac{C_A}{C_M} \qquad \text{Eq. 3}$$

7.4 Background VO~~C~~M Concentration at Point i.

$$C_{Bi} = (C_i - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 4}$$

7.5 Average Background Concentration.

$$C_B = \frac{\sum_{i=1}^{n} C_{BJ} A_i}{nA_N} \qquad \text{Eq. 5}$$

NOTE: If the concentration at each point is within 20 percent of the average concentration of all points, the terms "A_i" and "A_N" may be deleted from Equation 4.

Procedure F.2 - Fugitive VO~~C~~M Emissions from Building Enclosures

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the fugitive volatile organic ~~compounds~~materials (VO~~C~~M) emissions from a building enclosure (BE). It is intended to be used as a segment in the development of liquid/gas or gas/gas protocols for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations.

1.2 Principle. The total amount of fugitive VO~~C~~M emissions (F_B) from the BE is calculated as the sum of the products of the VO~~C~~M content (C_{Fj}) of each fugitive emissions point, its flow rate (Q_{Fj}), and time (T_F).

1.3 Measurement Uncertainty. The measurement uncertainties are estimated for each fugitive emissions point as follows: Q_{Fj} = ±5.0 percent and C_{Fj} = ±5.0 percent. Based on these numbers, the probable uncertainty for F_B is estimated at about ±11.2 percent.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Gas VO~~C~~M Concentration. A schematic of the measurement system is shown in Figure 1. The main components are described below:

2.1.1 Sample Probe. Stainless steel, or equivalent. The probe shall be heated to prevent VO~~C~~M condensation.

2.1.2 Calibration Valve Assembly. Three-way valve assembly at the outlet of sample probe to direct the zero and calibration gases to the analyzer. Other methods, such as quick-connect lines, to route calibration gases to the outlet of the sample probe are acceptable.

2.1.3 Sample Line. Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line must be heated to prevent condensation.

2.1.4 Sample Pump. A leak-free pump, to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The components of the pump that contact the gas stream shall be constructed of stainless steel or Teflon. The sample pump must be heated to prevent condensation.

2.1.5 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent. The flow rate control valve and rotameter must be heated to prevent condensation. A control valve may also be located on the sample pump bypass loop to assist in controlling the sample pressure and flow rate.

2.1.6 Sample Gas Manifold. Capable of diverting a portion of the sample gas stream to the flame ionization analyzer (FIA), and the remainder to the bypass discharge vent. The manifold components shall be constructed of stainless steel or Teflon. If emissions are to be measured at multiple locations, the measurement system shall be designed to use separate sampling probes, lines, and pumps for each measurement location and a common sample gas manifold and FIA. The sample gas manifold must be heated to prevent condensation.

2.1.7 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however, other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.1.7.1 Zero Drift. Less than ±3.0 percent of the span value.

2.1.7.2 Calibration Drift. Less than ±3.0 percent of the span value.

2.1.7.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.1.7.4 Response Time. Less than 30 seconds.

2.1.8 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.1.9 Calibration and Other Gases. Gases used for calibration, fuel, and combustion air (if required) are contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.1.9.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.1.9.2 Carrier Gas. High purity air with less than 1 ppm of organic material (propane or carbon equivalent) or less than 0.1 percent of the span value, whichever is greater.

2.1.9.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.1.10 Particulate Filter. An in-stack or an out-of-stack glass fiber filter is recommended if exhaust gas particulate loading is significant. An out-of-stack filter must be heated to prevent any condensation unless it can be demonstrated that no condensation occurs.

2.2 Fugitive Emissions Volumetric Flow Rate.

2.2.1 Flow Direction Indicators. Any means of indicating inward or outward flow, such as light plastic film or paper streamers, smoke tubes, filaments, and sensory perception.

2.2.2 Method 2 or 2A Apparatus. For determining volumetric flow rate. Anemometers or similar devices calibrated according to the manufacturer's instructions may be used when low velocities are present. Vane anemometers (Young-maximum response propeller), specialized pitots with electronic manometers (e.g., Shortridge Instruments Inc., Airdata Multimeter 860) are commercially available with measurement thresholds of 15 and 8 mpm (50 and 25 fpm), respectively.

2.2.3 Method 3 Apparatus and Reagents. For determining molecular weight of the gas stream. An estimate of the molecular weight of the gas stream may be used if it can be justified.

2.2.4 Method 4 Apparatus and Reagents. For determining moisture content, if necessary.

3. DETERMINATION OF VOLUMETRIC FLOW RATE OF FUGITIVE EMISSIONS

3.1 Preliminary Determinations. The purpose of this exercise is to determine which exhaust points should be measured for volumetric flow rates and VO~~C~~M concentrations.

3.1.1 Forced Draft Openings. Identify all forced draft openings. Determine the volumetric flow rate according to Method 2.

3.1.2 NDO's Exhaust Points. The NDO's in the roof of a facility the building or room in which the emission unit is located are considered to be exhaust points. Determine volumetric flow rate from these NDO's. Divide the cross-sectional area according to Method 1 using 12 equal areas. Use the appropriate velocity measurement devices, e.g., propeller anemometers.

3.1.3 Other NDO's.

3.1.3.1 This step is optional. Determine the exhaust flow rate, including that of the control device, from the enclosure and the intake air flow rate. If the exhaust flow rate divided by the intake air flow rate is greater than 1.1, then all other NDO's are not considered to be significant exhaust points.

3.1.3.2 If the option above is not taken, identify all other NDO's and other potential points through which fugitive emissions may escape the enclosure. Then use the following criteria to determine whether flow rates and VO~~C~~M concentrations need to be measured:

3.1.3.2.1 Using the appropriate flow direction indicator, determine the flow direction. An NDO with zero or inward flow is not an exhaust point.

3.1.3.2.2 Measure the outward volumetric flow rate from the remainder of the NDO's. If the collective flow rate is 2 percent, or less, of the flow rate from Sections 3.1.1 and 3.1.2, then these NDO's, except those within two equivalent diameters (based on NDO opening) from a VO~~C~~M ~~sources~~emitting point, may be considered to be non-exhaust points.

3.1.3.2.3 If the percentage calculated in Section 3.1.3.2.2 is greater than 2 percent, those NDO's (except those within two equivalent diameters from a VO~~C~~M ~~sources~~emitting point) whose volumetric flow rate total 2 percent of the flow rate from Sections 3.1.1 and 3.1.2 may be considered as non-exhaust points. All remaining NDO's shall be measured for volumetric flow rate and VO~~C~~M concentrations during the CE test.

3.1.3.2.4 The tester may choose to measure VO~~C~~M concentrations at the forced exhaust points and the NDO's. If the total VO~~C~~M emissions from the NDO's are less than 2 percent of the emissions from the forced draft and roof NDO's, then these NDO's may be eliminated from further consideration.

3.2 Determination of Flow Rates.

3.2.1 Measure the volumetric flow rate at all locations identified as exhaust points in Section 3.1. Divide each exhaust opening into 9 equal areas for rectangular openings and 8 for circular openings.

3.2.2 Measure the velocity at each site at least once every hour during each sampling run using Method 2 or 2A, if applicable, or using the low velocity instruments in Section 2.2.2.

4. DETERMINATION OF VO~~C~~M CONTENT OF FUGITIVE EMISSIONS

4.1 Analysis Duration. Measure the VO~~C~~M responses at each fugitive emission point during the entire test run or, if applicable, while the process is operating. If there are multiple emissions locations, design a sampling system to allow a single FIA to be used to determine the VO~~C~~M responses at all sampling locations.

4.2 Gas VO~~C~~M Concentration.

4.2.1 Assemble the sample train as shown in Figure 1. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and 5.3, respectively.

4.2.2 Install the sample probe so that the probe is centrally located in the stack, pipe, or duct, and is sealed tightly at the stack port connection.

4.2.3 Inject zero gas at the calibration valve assembly. Allow the measurement system response to reach zero. Measure the system response time as the time required for the system to reach the effluent concentration after the calibration valve has been returned to the effluent sampling position.

4.2.4 Conduct a system check before and a system drift check after each sampling run according to the procedures in Sections 5.2 and 5.3. If the drift check following a run indicates unacceptable performance, the run is not valid. The tester may elect to perform drift checks during the run not to exceed one drift check per hour.

4.2.5 Verify that the sample lines, filter, and pump temperatures are 120 ±5°C.

4.2.6 Begin sampling at the start of the test period and continue to sample during the entire run. Record the starting and ending times and any required process information as appropriate. If multiple emission locations are sampled using a single FIA, sample at each location for the same amount of time (e.g., 2 minutes) and continue to switch from one location to another for the entire test run. Be sure that total sampling time at each location is the same at the end of the test run. Collect at least 4 separate measurements from each sample point during each hour of testing. Disregard the response measurements at each sampling location until two times the response time of the measurement system has elapsed. Continue sampling for at least 1 minute and record the concentration measurements.

4.3 Alternative Procedure The direct interface sampling and analysis procedure described in Section 7.2 of Method 18 may be used to determine the gas VO~~C~~M concentration. The system must be designed to collect and analyze at least one sample every 10 minutes.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. Select the calibration gas that most closely approximates the concentration of the captured emissions for conducting the drift checks. Introduce the zero and calibration gas at the calibration valve assembly and verify that the appropriate gas flow rate and pressure are present at the FIA. Record the measurement system responses to the zero and calibration gases. The performance of the system is acceptable if the difference between the drift check measurement and the value obtained in Section 5.1 is less than 3 percent of the span value. Conduct a system drift check at the end of each run.

5.3 System Check. Inject the high range calibration gas at the inlet of the sampling probe and record the response. The performance of the system is acceptable if the measurement system response is within 5 percent of the value obtained in Section 5.1 for the high range calibration gas. Conduct a system check before each test run.

5.4 Analysis Audit. Immediately before each test analyze an audit cylinder as described in Section 5.2. The analysis audit must agree with the audit cylinder concentration within 10 percent.

6. NOMENCLATURE

C_{DH} = average measured concentration for the drift check calibration gas, ppm propane~~.~~;

C_{D0} = average system drift check concentration for zero concentration gas, ppm propane~~.~~;

C_{Fj} = corrected average VO~~C~~M concentration of fugitive emissions at point j, ppm propane~~.~~;

C_H = actual concentration of the drift check calibration gas, ppm propane~~.~~;

C_j = uncorrected average VO~~C~~M concentration measured at point j, ppm propane~~.~~;

F_B = total VO~~C~~M content of fugitive emissions from the building, kg~~.~~;

K_1 = 1.830×10^{-6} kg/(m^3-ppm)~~.~~;

n = number of measurement points~~.~~;

Q_{Fj} = average effluent volumetric flow rate corrected to standard conditions at fugitive emissions point j, m^3/min~~.~~;

T_F = total duration of capture efficiency sampling run, min.

7. CALCULATIONS

7.1 Total VO~~C~~M Fugitive Emissions From the Building.

$$F_B = \sum_{j=1}^{n} C_{Fj}\ Q_{Fj}\ T_F\ K_1 \qquad \text{Eq. 1}$$

7.2 VO~~C~~M Concentration of the Fugitive Emissions at Point j.

$$C_{Fj} = (C_j - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 2}$$

Procedure F.1 - Fugitive VO~~C~~M Emissions from Temporary Enclosures

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the fugitive volatile organic ~~compounds~~materials (VO~~C~~M) emissions from a temporary total enclosure (TTE). It is intended to be used as a segment in the development of liquid/gas or gas/gas protocols for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations.

1.2 Principle. The amount of fugitive VO~~C~~M emissions (F) from the TTE is calculated as the sum of the products of the VO~~C~~M content (C_{Fj}), the flow rate (Q_{Fj}), and the sampling time (T_F) from each fugitive emissions point.

1.3 Estimated Measurement Uncertainty. The measurement uncertainties are estimated for each fugitive emission point as follows: Q_{Fj} = ±5.5 percent and CF_j = ±5.0 percent. Based on these numbers, the probable uncertainty for F is estimated at about ±7.4 percent.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Gas VO~~C~~M Concentration. A schematic of the measurement system is shown in Figure 1. The main components are described below:

2.1.1 Sample Probe. Stainless steel, or equivalent. The probe shall be heated to prevent VO~~C~~M condensation.

2.1.2 Calibration Valve Assembly. Three-way valve assembly at the outlet of sample probe to direct the zero and calibration gases to the analyzer. Other methods, such as quick-connect lines, to route calibration gases to the outlet of the sample probe are acceptable.

2.1.3 Sample Line. Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line must be heated to prevent condensation.

2.1.4 Sample Pump. A leak-free pump, to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The components of the pump that contact the gas stream shall be constructed of stainless steel or Teflon. The sample pump must be heated to prevent condensation.

2.1.5 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent. The flow control valve and rotameter must be heated to prevent condensation. A control valve may also be located on the sample pump bypass loop to assist in controlling the sample pressure and flow rate.

2.1.6 Sample Gas Manifold. Capable of diverting a portion of the sample gas stream to the flame ionization analyzer (FIA), and the remainder to the bypass discharge vent. The manifold components shall be constructed of stainless steel or Teflon. If emissions are to be measured at multiple locations, the measurement system shall be designed to use separate sampling probes, lines, and pumps for each measurement location and a common sample gas manifold and FIA. The sample gas manifold and connecting lines to the FIA must be heated to prevent condensation.

2.1.7 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however, other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.1.7.1 Zero Drift. Less than ±3.0 percent of the span value.

2.1.7.2 Calibration Drift. Less than ±3.0 percent of the span value.

2.1.7.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.1.7.4 Response Time. Less than 30 seconds.

2.1.8 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.1.9 Calibration and Other Gases. Gases used for calibration, fuel, and combustion air (if required) are contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.1.9.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.1.9.2 Carrier Gas. High purity air with less than 1 ppm of organic material (as propane or carbon equivalent) or less than 0.1 percent of the span value, whichever is greater.

2.1.9.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.1.10 Particulate Filter. An in-stack or an out-of-stack glass fiber filter is recommended if exhaust gas particulate loading is significant. An out-of-stack filter must be heated to prevent any condensation unless it can be demonstrated that no condensation occurs.

2.2 Fugitive Emissions Volumetric Flow Rate.

2.2.1 Method 2 or 2A Apparatus. For determining volumetric flow rate.

2.2.2 Method 3 Apparatus and Reagents. For determining molecular weight of the gas stream. An estimate of the molecular weight of the gas stream may be used if it can be justified.

2.2.3 Method 4 Apparatus and Reagents. For determining moisture content, if necessary.

2.3 Temporary Total Enclosure. The criteria for designing a TTE are discussed in Procedure T.

3. DETERMINATION OF VOLUMETRIC FLOW RATE OF FUGITIVE EMISSIONS

3.1 Locate all points where emissions are exhausted from the TTE. Using Method 1, determine the sampling points. Be sure to check each site for cyclonic or swirling flow.

3.2 Measure the velocity at each sampling site at least once every hour during each sampling run using Method 2 or 2A.

4. DETERMINATION OF VO~~C~~M CONTENT OF FUGITIVE EMISSIONS

4.1 Analysis Duration. Measure the VO~~C~~M responses at each fugitive emission point during the entire test run or, if applicable, while the process is operating. If there are multiple emission locations, design a sampling system to allow a single FIA to be used to determine the VO~~C~~M responses at all sampling locations.

4.2 Gas VO~~C~~M Concentration.

4.2.1 Assemble the sample train as shown in Figure 1. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and 5.3, respectively.

4.2.2 Install the sample probe so that the probe is centrally located in the stack, pipe, or duct, and is sealed tightly at the stack port connection.

4.2.3 Inject zero gas at the calibration valve assembly. Allow the measurement system response to reach zero. Measure the system response time as the time required for the system to reach the effluent concentration after the calibration valve has been returned to the effluent sampling position.

4.2.4 Conduct a system check before and a system drift check after each sampling run according to the procedures in Sections 5.2 and 5.3. If the drift check following a run indicates unacceptable performance, the run is not valid. The tester may elect to perform system drift checks during the run not to exceed one drift check per hour.

4.2.5 Verify that the sample lines, filter, and pump temperatures are 120 ±5°C.

4.2.6 Begin sampling at the start of the test period and continue to sample during the entire run. Record the starting and ending times and any required process information as appropriate. If multiple emission locations are sampled using a single FIA, sample at each location for the same amount of time (e.g., 2 minutes) and continue to switch from one location to another for the entire test run. Be sure that total sampling time at each location is the same at the end of the test run. Collect at least 4 separate measurements from each sample point during each hour of testing. Disregard the response measurements at each sampling location until two times the response time of the measurement system has elapsed. Continue sampling for at least 1 minute and record the concentration measurements.

4.3 Background Concentration.

4.3.1 Determination of VO~~C~~M Background Concentration.

4.3.1.1 Locate all NDO's of the TTE. A sampling point shall be centrally located outside of the TTE at 4 equivalent diameters from each NDO, if possible. If there are more than 6 NDO's, choose 6 sampling points evenly spaced among the NDO's.

4.3.1.2 Assemble the sample train as shown in Figure 2. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and 5.3.

4.3.1.3 Position the probe at the sampling location.

4.3.1.4 Determine the response time, conduct the system check and sample according to the procedures described in Sections 4.2.3 to 4.2.6.

4.4 Alternative Procedure. The direct interface sampling and analysis procedure described in Section 7.2 of Method 18 may be used to determine the gas VO~~C~~M concentration. The system must be designed to collect and analyze at least one sample every 10 minutes.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. Select the calibration gas concentration that most closely approximates that of the fugitive gas emissions to conduct the drift checks. Introduce the zero and calibration gas at the calibration valve assembly and verify that the appropriate gas flow rate and pressure are present at the FIA. Record the measurement system responses to the zero and calibration gases. The performance of the system is acceptable if the difference between the drift check measurement and the value obtained in Section 5.1 is less than 3 percent of the span value. Conduct a system drift check at the end of each run.

5.3 System Check. Inject the high range calibration gas at the inlet of the sampling probe and record the response. The performance of the system is acceptable if the measurement system response is within 5 percent of the value obtained in Section 5.1 for the high range calibration gas. Conduct a system check before each test run.

5.4 Analysis Audit. Immediately before each test analyze an audit cylinder as described in Section 5.2. The analysis audit must agree with the audit cylinder concentration within 10 percent.

6. NOMENCLATURE

A_i = area of NDO i, ft^2~~.~~;

A_N = total area of all NDO's in the enclosure, ft^2~~.~~;

C_{Bi} = corrected average VO~~C~~M concentration of background emissions at point i, ppm propane.;

C_B = average background concentration, ppm propane~~.~~;

C_{DH} = average measured concentration for the drift check calibration gas, ppm propane~~.~~;

C_{DO} = average system drift check concentration for zero concentration gas, ppm propane~~.~~;

C_{Fj} = corrected average VO~~C~~M concentration of fugitive emissions at point j, ppm propane~~.~~;

C_H = actual concentration of the drift check calibration gas, ppm propane~~.~~;

C_i = uncorrected average background VO~~C~~M concentration measured at point i, ppm propane~~.~~;

C_j = uncorrected average VO~~C~~M concentration measured at point j, ppm propane~~.~~;

G = total VO~~C~~M content of captured emissions, kg~~.~~;

K_1 = 1.830×10^{-6} kg/(m^3-ppm)~~.~~;

n = number of measurement points~~.~~;

Q_{Fj} = average effluent volumetric flow rate corrected to standard conditions at fugitive emissions point j, m^3/min~~.~~;

T_F = total duration of fugitive emissions sampling run, min.

7. CALCULATIONS

7.1 Total VO~~C~~M Fugitive Emissions.

$$F = \sum_{j=1}^{n} (C_{Fj} - C_B)\, Q_{Fj}\, T_F\, K_1 \qquad \text{Eq. 1}$$

7.2 VO~~C~~M Concentration of the Fugitive Emissions at Point j.

$$C_{Fj} = (C_j - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 2}$$

7.3 Background VO~~C~~M Concentration at Point i.

$$C_{Bi} = (C_i - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 3}$$

7.4 Average Background Concentration.

$$C_B = \frac{\sum_{i=1}^{n} C_{Bi}\ A_i}{nA_N} \qquad \text{Eq. 5}$$

NOTE: If the concentration at each point is within 20 percent of the average concentration of all points, the terms "A_i" and "A_N" may be deleted from Equation 4.

Procedure L - VO~~C~~M Input

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the input of volatile organic ~~compounds~~materials (VO~~C~~M). It is intended to be used as a segment in the development of liquid/gas protocols for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations.

1.2 Principle. The amount of VO~~C~~M introduced to the process (L) is the sum of the products of the weight (W) of each VO~~C~~M containing liquid (ink, paint, solvent, etc.) used and its VO~~C~~M content (V). A sample of each VO~~C~~M containing liquid is analyzed with a flame ionization analyzer (FIA) to determine V.

1.3 Estimated Measurement Uncertainty. The measurement uncertainties are estimated for each VO~~C~~M containing liquid as follows: W = 2.0 percent and V = ±12.0 percent. Based on these numbers, the probable uncertainty for L is estimated at about ±12.2 percent for each VO~~C~~M containing liquid.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Liquid Weight.

2.1.1 Balances/Digital Scales. To weigh drums of VOCM containing liquids to within 0.2 lb.

2.1.2 Volume Measurement Apparatus (Alternative). Volume meters, flow meters, density measurement equipment, etc., as needed to achieve same accuracy as direct weight measurements.

2.2 VOCM Content (Flame Ionization Analyzer Technique). The liquid sample analysis system is shown in Figures 1 and 2. The following equipment is required:

2.2.1 Sample Collection Can. An appropriately sized metal can to be used to collect VOCM containing materials. The can must be constructed in such a way that it can be grounded to the coating container.

2.2.2 Needle Valves. To control gas flow.

2.2.3 Regulators. For carrier gas and calibration gas cylinders.

2.2.4 Tubing. Teflon or stainless steel tubing with diameters and lengths determined by connection requirements of equipment. The tubing between the sample oven outlet and the FIA shall be heated to maintain a temperature of 120 ±5°C.

2.2.5 Atmospheric Vent. A tee and 0- to 0.5-liter/min rotameter placed in the sampling line between the carrier gas cylinder and the VOCM sample vessel to release the excess carrier gas. A toggle valve placed between the tee and the rotameter facilitates leak tests of the analysis system.

2.2.6 Thermometer. Capable of measuring the temperature of the hot water bath to within 1°C.

2.2.7 Sample Oven. Heated enclosure, containing calibration gas coil heaters, critical orifice, aspirator, and other liquid sample analysis components, capable of maintaining a temperature of 120 ±5°C.

2.2.8 Gas Coil Heaters. Sufficient lengths of stainless steel or Teflon tubing to allow zero and calibration gases to be heated to the sample oven temperature before entering the critical orifice or aspirator.

2.2.9 Water Bath. Capable of heating and maintaining a sample vessel temperature of 100 ±5°C.

2.2.10 Analytical Balance. To measure ±0.001 g.

2.2.11 Disposable Syringes. 2-cc or 5-cc.

2.2.12 Sample Vessel. Glass, 40-ml septum vial. A separate vessel is needed for each sample.

2.2.13 Rubber Stopper. Two-hole stopper to accommodate 3.2-mm (1/8-in.) Teflon tubing, appropriately sized to fit the opening of the sample vessel. The rubber stopper should be wrapped in Teflon tape to provide a tighter seal and to prevent any reaction of the sample with the rubber stopper. Alternatively, any leak-free closure fabricated of non-reactive materials and accommodating the necessary tubing fittings may be used.

2.2.14 Critical Orifices. Calibrated critical orifices capable of providing constant flow rates from 50 to 250 ml/min at known pressure drops. Sapphire orifice assemblies (available from O'Keefe Controls Company) and glass capillary tubing have been found to be adequate for this application.

2.2.15 Vacuum Gauge. 0- to 760-mm (0- to 30-in.) Hg U-Tube manometer or vacuum gauge.

2.2.16 Pressure Gauge. Bourdon gauge capable of measuring the maximum air pressure at the aspirator inlet (e.g., 100 psig).

2.2.17 Aspirator. A device capable of generating sufficient vacuum at the sample vessel to create critical flow through the calibrated orifice when sufficient air pressure is present at the aspirator inlet. The aspirator must also provide sufficient sample pressure to operate the FIA. The sample is also mixed with the dilution gas within the aspirator.

2.2.18 Soap Bubble Meter. Of an appropriate size to calibrate the critical orifices in the system.

2.2.19 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.2.19.1 Zero Drift. Less than ±3.0 percent of the span value.

2.2.19.2 Calibration Drift. Less than ±3.0 percent of span value.

2.2.19.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.2.20 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.2.21 Chart Recorder (Optional). A chart recorder or similar device is recommended to provide a continuous analog display of the measurement results during the liquid sample analysis.

2.2.22 Calibration and Other Gases. For calibration, fuel, and combustion air (if required) contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.2.22.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.2.22.2 Carrier Gas. High purity air with less than 1 ppm of organic material (as propane) or less than 0.1 percent of the span value, whichever is greater.

2.2.22.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.2.22.4 System Calibration Gas. Gas mixture standard containing propane in air, approximating the undiluted VO~~C~~M concentration expected for the liquid samples.

3. DETERMINATION OF LIQUID INPUT WEIGHT

3.1 Weight Difference. Determine the amount of material introduced to the process as the weight difference of the feed material before and after each sampling run. In determining the total VO~~C~~M containing liquid usage, account for: (a) the initial (beginning) VO~~C~~M containing liquid mixture; (b) any solvent added during the test run; (c) any coating added during the test run; and (d) any residual VO~~C~~M containing liquid mixture remaining at the end of the sample run.

3.1.1 Identify all points where VO~~C~~M containing liquids are introduced to the process. To obtain an accurate measurement of VO~~C~~M containing liquids, start with an empty fountain (if applicable). After completing the run, drain the liquid in the fountain back into the liquid drum (if possible), and weigh the drum again. Weigh the VO~~C~~M containing liquids to ±0.5 percent of the total weight (full) or ±0.1 percent of the total weight of VO~~C~~M containing liquid used during the sample run, whichever is less. If the residual liquid cannot be returned to the drum, drain the fountain into a preweighed empty drum to determine the final weight of the liquid.

3.1.2 If it is not possible to measure a single representative mixture, then weigh the various components separately (e.g., if solvent is added during the sampling run, weigh the solvent before it is added to the mixture). If a fresh drum of VO~~C~~M containing liquid is needed during the run, then weigh both the empty drum and fresh drum.

3.2 Volume Measurement (Alternative). If direct weight measurements are not feasible, the tester may use volume meters and flow rate meters (and density measurements) to determine the weight of liquids used if it can be demonstrated that the technique produces results equivalent to the direct weight measurements. If a single representative mixture cannot be measured, measure the components separately.

4. DETERMINATION OF VO~~C~~M CONTENT IN INPUT LIQUIDS

4.1 Collection of Liquid Samples.

4.1.1 Collect a 100-ml or larger sample of the VO~~C~~M containing liquid mixture at each application location at the beginning and end of each test run. A separate sample should be taken of each VO~~C~~M containing liquid added to the application mixture during the test run. If a fresh drum is needed during the sampling run, then obtain a sample from the fresh drum.

4.1.2 When collecting the sample, ground the sample container to the coating drum. Fill the sample container as close to the rim as possible to minimize the amount of headspace.

4.1.3 After the sample is collected, seal the container so the sample cannot leak out or evaporate.

4.1.4 Label the container to identify clearly the contents.

4.2 Liquid Sample VO~~C~~M Content.

4.2.1 Assemble the liquid VO~~C~~M content analysis system as shown in Figure 1.

4.2.2 Permanently identify all of the critical orifices that may be used. Calibrate each critical orifice under the expected operating conditions (i.e., sample vacuum and temperature) against a volume meter as described in Section 5.3.

4.2.3 Label and tare the sample vessels (including the stoppers and caps) and the syringes.

4.2.4 Install an empty sample vessel and perform a leak test of the system. Close the carrier gas valve and atmospheric vent and evacuate the sample vessel to 250 mm (10 in.) Hg absolute or less using the aspirator. Close the toggle valve at the inlet to the aspirator and observe the vacuum for at least one minute. If there is any change in the sample pressure, release the vacuum, adjust or repair the apparatus as necessary and repeat the leak test.

4.2.5 Perform the analyzer calibration and linearity checks according to the procedure in Section 5.1. Record the responses to each of the calibration gases and the back-pressure setting of the FIA.

4.2.6 Establish the appropriate dilution ratio by adjusting the aspirator air supply or substituting critical orifices. Operate the aspirator at a vacuum of at least 25 mm (1 in.) Hg greater than the vacuum necessary to achieve critical flow. Select the dilution ratio so that the maximum response of the FIA to the sample does not exceed the high-range calibration gas.

4.2.7 Perform system calibration checks at two levels by introducing compressed gases at the inlet to the sample vessel while the aspirator and dilution devices are operating. Perform these checks using the carrier gas (zero concentration) and the system calibration gas. If the response to the carrier gas exceeds ±0.5 percent of span, clean or repair the apparatus and repeat the check. Adjust the dilution ratio as necessary to achieve the correct response to the upscale check, but do not adjust the analyzer calibration. Record the identification of the orifice, aspirator air supply pressure, FIA back-pressure, and the responses of the FIA to the carrier and system calibration gases.

4.2.8 After completing the above checks, inject the system calibration gas for approximately 10 minutes. Time the exact duration of the gas injection using a stopwatch. Determine the area under the FIA response curve and calculate the system response factor based on the sample gas flow rate, gas concentration, and the duration of the injection as compared to the integrated response using Equations 2 and 3.

4.2.9 Verify that the sample oven and sample line temperatures are 120 ±5°C and that the water bath temperature is 100 ±5°C.

4.2.10 Fill a tared syringe with approximately 1 g of the VO~~C~~M containing liquid and weigh it. Transfer the liquid to a tared sample vessel. Plug the sample vessel to minimize sample loss. Weigh the sample vessel containing the liquid to determine the amount of sample actually received. Also, as a quality control check, weigh the empty syringe to determine the amount of material delivered. The two coating sample weights should agree within ±0.02 g. If not, repeat the procedure until an acceptable sample is obtained.

4.2.11 Connect the vessel to the analysis system. Adjust the aspirator supply pressure to the correct value. Open the valve on the carrier gas supply to the sample vessel and adjust it to provide a slight excess flow to the atmospheric vent. As soon as the initial response of the FIA begins to decrease, immerse the sample vessel in the water bath. (Applying heat to the sample vessel too soon may cause the FID response to exceed the calibrated range of the instrument, and thus invalidate the analysis.)

4.2.12 Continuously measure and record the response of the FIA until all of the volatile material has been evaporated from the sample and the instrument response has returned to the baseline (i.e., response less than 0.5 percent of the span value). Observe the aspirator supply pressure, FIA back-pressure, atmospheric vent, and other system operating parameters during the run; repeat the analysis procedure if any of these parameters deviate from the values established during the system calibration checks in Section 4.2.7. After each sample perform the drift check described in Section 5.2. If the drift check results are acceptable, calculate the VO~~C~~M content of the sample using the equations in Section 7. Integrate the area under the FIA response curve, or determine the average concentration response and the duration of sample analysis.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. After each sample, repeat the system calibration checks in Section 4.2.7 before any adjustments to the FIA or measurement system are made. If the zero or calibration drift exceeds ±3 percent of the span value, discard the result and repeat the analysis.

5.3 Critical Orifice Calibration.

5.3.1 Each critical orifice must be calibrated at the specific operating conditions that it will be used. Therefore, assemble all components of the liquid sample analysis system as shown in Figure 3. A stopwatch is also required.

5.3.2 Turn on the sample oven, sample line, and water bath heaters and allow the system to reach the proper operating temperature. Adjust the aspirator to a vacuum of 380 mm (15 in.) Hg vacuum. Measure the time required for one soap bubble to move a known distance and record barometric pressure.

5.3.3 Repeat the calibration procedure at a vacuum of 406 mm (16 in.) Hg and at 25-mm (1-in.) Hg intervals until three consecutive determinations provide the same flow rate. Calculate the critical flow rate for the orifice in ml/min at standard conditions. Record the vacuum necessary to achieve critical flow.

6. NOMENCLATURE

A_L = area under the response curve of the liquid sample, area count~~.~~;

A_S = area under the response curve of the calibration gas, area count~~.~~;

C_S = actual concentration of system calibration gas, ppm propane~~.~~;

K = 1.830×10^{-9} g/(ml-ppm)~~.~~;

L = total VO~~C~~M content of liquid input, kg~~.~~;

M_L = mass of liquid sample delivered to the sample vessel, g~~.~~;

q = flow rate through critical orifice, ml/min~~.~~;

RF = liquid analysis system response factor, g/area count~~.~~;

T_S = total gas injection time for system calibration gas during integrator calibration, min~~.~~;

V_{Fj} = final VO~~C~~M fraction of VO~~C~~M containing liquid j~~.~~;

V_{Ij} = initial VO~~C~~M fraction of VO~~C~~M containing liquid j~~.~~;

V_{Aj} = VO~~C~~M fraction of VO~~C~~M containing liquid j added during the run~~.~~;

V = VO~~C~~M fraction of liquid sample~~.~~;

W_{Fj} = weight of VO~~C~~M containing liquid j remaining at end of the run, kg~~.~~;

W_{Ij} = weight of VO~~C~~M containing liquid j at beginning of the run, kg~~.~~;

W_{Aj} = weight of VO~~C~~M containing liquid j added during the run, kg.

7. CALCULATIONS

7.1 Total VO~~C~~M Content of the Input VO~~C~~M Containing Liquid.

$$L = \sum_{j=1}^{n} V_{Ij}\, W_{Ij} = V_{Fj}\, W_{Fj} + \sum_{j=1}^{n} V_{Aj}\, W_{Aj} \quad \mathop{R}_{j=1}^{n} \qquad \text{Eq. 1}$$

7.2 Liquid Sample Analysis System Response Factor for Systems Using Integrators, Grams/Area Counts.

$$RF = \frac{C_S\, q\, T_S\, K}{A_S} \qquad \text{Eq. 2}$$

7.3 VO~~C~~M Content of the Liquid Sample.

$$V = \frac{A_L\, RF}{M_L} \qquad \text{Eq. 3}$$

Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure

1. INTRODUCTION

1.1 Applicability. This procedure is used to determine whether a permanent or temporary enclosure meets the criteria of a total enclosure.

1.2 Principle. An enclosure is evaluated against a set of criteria. If the criteria are met and if all the exhaust gases are ducted to a control device, then the volatile organic ~~compounds~~materials (VO~~C~~M) capture efficiency (CE) is assumed to be 100 percent and CE need not be measured. However, if part of the exhaust gas stream is not ducted to a control device, CE must be determined.

2. DEFINITIONS

2.1 Natural Draft Opening (NDO) -- Any permanent opening in the enclosure that remains open during operation of the ~~facility~~ emission unit and is not connected to a duct in which a fan is installed.

2.2 Permanent Total Enclosure (PTE) -- A permanently installed enclosure that completely surrounds an ~~source of~~ emission~~s~~unit such that all VO~~C~~M emissions are captured and contained for discharge through a control device.

2.3 Temporary Total Enclosure (TTE) -- A temporarily installed enclosure that completely surrounds an ~~source of~~ emission~~s~~unit such that all VO~~C~~M emissions are captured and contained for discharge through ducts that allow for the accurate measurement of VO~~C~~M rates.

3. CRITERIA OF A TEMPORARY TOTAL ENCLOSURE

3.1 Any NDO shall be at least 4 equivalent opening diameters from each VO~~C~~M emitting point.

3.2 Any exhaust point from the enclosure shall be at least 4 equivalent duct or hood diameters from each NDO.

3.3 The total area of all NDO's shall not exceed 5 percent of the surface area of the enclosure's four walls, floor, and ceiling.

3.4 The average facial velocity (FV) of air through all NDO's shall be at least 3,600 m/hr (200 fpm). The direction of air through all NDO's shall be into the enclosure.

3.5 All access doors and windows whose areas are not included in Section 3.3 and are not included in the calculation in Section 3.4 shall be closed during routine operation of the ~~process~~emission unit.

4. CRITERIA OF A PERMANENT TOTAL ENCLOSURE

4.1 Same as Sections 3.1 and 3.3 - 3.5.

4.2 All VO~~C~~M emissions must be captured and contained for discharge through a control device.

5. PROCEDURE

5.1 Determine the equivalent diameters of the NDO's and determine the distances from each VO~~C~~M emitting point to all NDO's. Determine the equivalent diameter of each exhaust duct or hood and its distance to all NDO's. Calculate the distances in terms of equivalent diameters. The number of equivalent diameters shall be at least 4.

5.2 Measure the total area (A_t) of the enclosure and the total area (A_N) of all NDO's of the enclosure. Calculate the NDO to enclosure area ratio (NEAR) as follows:

$$NEAR = A_N/A_t$$

The NEAR must be < 0.05.

5.3 Measure the volumetric flow rate, corrected to standard conditions, of each gas stream exiting the enclosure through an exhaust duct or hood using EPA Method 2. In some cases (e.g., when the building is the enclosure), it may be necessary to measure the volumetric flow rate, corrected to standard conditions, of each gas stream entering the enclosure through a forced makeup air duct using Method 2. Calculate FV using the following equation:

$$FV = [Q_O - Q_I]/A_N$$

where:

Q_O = the sum of the volumetric flow from all gas streams exiting the enclosure through an exhaust duct or hood.

Q_I = the sum of the volumetric flow from all gas streams into the enclosure through a forced makeup air duct; zero, if there is no forced makeup air into the enclosure.

A_N = total area of all NDO's in enclosure.

The FV shall be at least 3,600 m/hr (200 fpm).

5.4 Verify that the direction of air flow through all NDO's is inward. Use streamers, smoke tubes, tracer gases, etc. Strips of plastic wrapping film have been found to be effective. Monitor the direction of air flow at intervals of at least 10 minutes for at least 1 hour.

6. QUALITY ASSURANCE

6.1 The success of this protocol lies in designing the TTE to simulate the conditions that exist without the TTE, i.e., the effect of the TTE on the normal flow patterns around the affected ~~facility~~emission unit or the amount of fugitive VO~~C~~M emissions should be minimal. The TTE must enclose the application stations, coating reservoirs, and all areas from the application station to the oven. The oven does not have to be enclosed if it is under negative pressure. The NDO's of the temporary enclosure and a fugitive exhaust fan must be properly sized and placed.

6.2. Estimate the ventilation rate of the TTE that best simulates the conditions that exist without the TTE, i.e., the effect of the TTE on the normal flow patterns around the affected ~~facility~~emission unit or the amount of fugitive VO~~C~~M emissions should be minimal. Figure 1 may be used as an aid. Measure the concentration (C_G) and flow rate (Q_G) of the captured gas stream, specify a safe concentration (C_F) for the fugitive gas stream, estimate the CE, and then use the plot in Figure 1 to determine the volumetric flowrate of the fugitive gas stream (Q_F). A fugitive VO~~C~~M emission exhaust fan that has a variable flow control is desirable.

6.2.1 Monitor the concentration of VO~~C~~M into the capture device without the TTE. To minimize the effect of temporal variation on the captured emissions, the baseline measurement should be made over as long a time period as practical. However, the process conditions must be the same for the measurement in Section 6.2.3 as they are for this baseline measurement. This may require short measuring times for this quality control check before and after the construction of the TTE.

6.2.2 After the TTE is constructed, monitor the VO~~C~~M concentration inside the TTE. This concentration shall not continue to increase and must not exceed the safe level according to OSHA requirements for permissible exposure limits. An increase in VO~~C~~M concentration indicates poor TTE design or poor capture efficiency.

6.2.3 Monitor the concentration of VO~~C~~M into the capture device with the TTE. To limit the effect of the TTE on the process, the VO~~C~~M concentration with and without the TTE must be within ±10 percent. If the measurements do not agree, adjust the ventilation rate from the TTE until they agree within 10 percent.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.Appendix C
Reference Test Methods ~~and Procedures~~For Air Oxidation Processes

Introduction

This Appendix presents the reference methods and procedures required for implementing Reasonably Available Control Technology (RACT). Methods and procedures are identified for two types of RACT implementation:

a) Determination of VO~~C~~M destruction efficiency for evaluating compliance with the 98 weight percent VO~~C~~M reduction or 20 ppmv emission limit specified in Sections 215.520 through 215.527; and

b) Determination of offgas flowrate, hourly emissions and stream net heating value for calculating TRE.

All reference methods identified in this Appendix refer to the reference methods specified at 40 CFR 60, Appendix A, incorporated by reference in Section 215.105.

VO~~C~~M DESTRUCTION EFFICIENCY DETERMINATION

The following reference methods and procedures are required for determining compliance with the percent destruction efficiency specified in Sections 215.520 through 215.527.

a) Reference Method 1 or 1A for selection of the sampling site. The control device inlet sampling site for determination of vent stream molar composition or total organic compound destruction efficiency shall be prior to the inlet of any control device and after all recovery devices.

b) Reference Methods 2, 2A, 2C or 2D for determination of the volumetric flowrate.

c) Reference Method 3 to measure oxygen concentration of the air dilution correction. The emission sample shall be corrected to 3 percent oxygen.

d) Reference Method 18 to determine the concentration of total organic compounds (minus methane and ethane) in the control device outlet and total organic compound reduction efficiency of the control device.

TRE DETERMINATION

The following reference methods and procedures are required for determining the offgas flowrate, hourly emissions, and the net heating value of the gas combusted to calculate the vent stream TRE.

a) Reference Method 1 or 1A for selection of the sampling site. The sampling site for the vent stream flowrate and molar composition determination prescribed in (b) and (c) shall be prior to the inlet of any combustion device, prior to any post-reactor dilution of the stream with air and prior to any post-reactor introduction of halogenated compounds into the vent stream. Subject to the preceding restrictions on the sampling site, it shall be after the final recovery device. If any gas stream other than the air oxidation vent stream is normally conducted through the recovery system of the affected facility, such stream shall be rerouted or turned off while the vent stream is sampled, but shall be routed normally prior to the measuring of the initial value of the monitored parameters for determining compliance with the recommended RACT. If the air oxidation vent stream is normally routed through any equipment which is not a part of the air oxidation process as defined in 35 Ill. Adm. Code 211.122, such equipment shall be bypassed by the vent stream while the vent stream is sampled, but shall not be bypassed during the measurement of the initial value of the monitored parameters for determining compliance with Subpart V.

b) The molar composition of the vent stream shall be determined using the following methods:

   1) Reference Method 18 to measure the concentration of all organics, including those containing halogens, unless a significant portion of the compounds of interest are polymeric (high molecular weight), can polymerize before analysis or have low vapor pressures, in which case Reference Method 25(a) shall be used.

   2) ASTM D1946-67 (reapproved 1977), incorporated by reference in Section 215.105, to measure the concentration of carbon monoxide and hydrogen.

   3) Reference Method 4 to measure the content of water vapor, if necessary.

c) The volumetric flowrate shall be determined using Reference Method 2, 2A, 2C or 2D, as appropriate.

d) The net heating value of the vent stream shall be calculated using the following equation:

$$H = K \sum_{i=1}^{n} CiHi$$

Where:

H = Net heating value of the sample, MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of F (vent stream flowrate) below.

K = Constant, 1.740×10^{-7} (1/ppm) (mole/scm) (MJ/kcal) where standard temperature for mole/scm is 20°C.

Ci = Concentration of sample component i, reported on a wet basis, in ppm, as measured by Reference Method 18 or ASTM D1946-67 (reapproved 1977), incorporated by reference in Section 215.105.

Hi = Net heat of combustion of sample component i, kcal/mole based on combustion at 25°C and 760 mm Hg. If published values are not available or cannot be calculated, the heats of combustion of vent stream components are required to be determined using ASTM D2382-76, incorporated by reference in Section 215.105.

e) The emission rate of total organic compounds in the process vent stream shall be calculated using the following equation:

$$E = K \quad F \quad \sum_{i=1}^{n} CiMi$$

Where:

E = Emission rate of total organic compounds (minus methane and ethane) in the sample in kg/hr~~.~~;

K = Constant 2.494×10^{-6} (1/ppm) (mole/scm) (kg/g) (min/hr), where standard temperature for (mole/scm) is 20°C;

Mi = Molecular weight of sample component i (g/mole);

F = Vent stream flowrate (scm/min), at a standard temperature of 20°C.

f) The total vent stream concentration (by volume) of compounds containing halogens (ppmv, by compound) shall be summed from the individual concentrations of compounds containing halogens which were measured by Reference Method 18.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.Appendix D
Coefficients for the Total Resource Effectiveness Index (TRE) Equation

This Appendix contains values for the total resource effectiveness index (TRE) equation in Subpart V.

If a flow rate falls exactly on the boundary between the indicated ranges, the operator shall use the row in which the flow rate is maximum.

COEFFICIENTS FOR TRE EQUATION FOR CHLORINATED PROCESS VENT STREAMS WITH NET HEATING VALUE LESS THAN OR EQUAL TO 3.5 MJ/scm

FLOW RATE (scm/min) Min.	Max.	a	b	c	d	e	f
0.0	13.5	48.73	0.	0.404	-0.1632	0.	0.
13.5	700.	42.35	0.624	0.404	-0.1632	0.	0.0245
700.	1400.	84.38	0.678	0.404	-0.1632	0.	0.0346
1400.	2100.	126.41	0.712	0.404	-0.1632	0.	0.0424
2100.	2800.	168.44	0.747	0.404	-0.1632	0.	0.0490
2800.	3500.	210.47	0.758	0.404	-0.1632	0.	0.0548

COEFFICIENTS FOR TRE EQUATION FOR CHLORINATED PROCESS VENT STREAMS WITH NET HEATING VALUE GREATER THAN 3.5 MJ/scm

FLOW RATE (scm/min) Min.	Max.	a	b	c	d	e	f
0.	13.5	47.76	0.	-0.292	0.	0.	0.
13.5	700.	41.58	0.605	-0.292	0.	0.	0.0245
700.	1400.	82.84	0.658	-0.292	0.	0.	0.0346
1400.	2100.	123.10	0.691	-0.292	0.	0.	0.0424
2100.	2800.	165.36	0.715	-0.292	0.	0.	0.0490
2800.	3500.	206.62	0.734	-0.292	0.	0.	0.0548

COEFFICIENTS FOR TRE EQUATION FOR NONCHLORINATED PROCESS VENT STREAMS WITH NET HEATING VALUE LESS THAN OR EQUAL TO 0.48 MJ/scm

FLOW RATE (scm/min) Min.	Max.	a	b	c	d	e	f
0.	13.5	19.05	0.	0.113	-0.214	0.	0.
13.5	1350.	16.61	0.239	0.113	-0.214	0.	0.0245
1350.	2700.	32.91	0.260	0.113	-0.214	0.	0.0346
2700.	4050.	49.21	0.273	0.113	-0.214	0.	0.0424

COEFFICIENTS FOR TRE EQUATION FOR NONCHLORINATED PROCESS VENT STREAMS
WITH NET HEATING VALUE GREATER THAN 0.48 AND LESS THAN OR EQUAL TO 1.9 MJ/scm

FLOW RATE (scm/min) Min.	Max.	a	b	c	d	e	f
0.	13.5	19.74	0.	0.400	-0.202	0.	0.
13.5	1350.	18.30	0.138	0.400	-0.202	0.	0.0245
1350.	2700.	36.28	0.150	0.400	-0.202	0.	0.0346
2700.	4050.	54.26	0.158	0.400	-0.202	0.	0.0424

COEFFICIENTS FOR TRE EQUATION FOR NONCHLORINATED PROCESS VENT STREAMS
WITH NET HEATING VALUE GREATER THAN 1.9 AND LESS THAN OR EQUAL TO 3.6 MJ/scm

FLOW RATE (scm/min) Min.	Max.	a	b	c	d	e	f
.0	13.5	15.24	0.	0.033	0.	0.	0.
13.5	1190.	13.63	0.157	0.033	0.	0.	0.0245
1190.	2380.	26.95	0.171	0.033	0.	0.	0.0346
2380.	3570.	40.27	0.179	0.033	0.	0.	0.0424

COEFFICIENTS FOR TRE EQUATION FOR NONCHLORINATED PROCESS VENT STREAMS WITH
NET HEATING VALUE GREATER THAN 3.6 MG/scm

FLOW RATE (scm/min) Min.	Max.	a	b	c	d	e	f
0.	13.5	15.24	0.	0.	0.0090	0.	0.
13.5	1190.	13.63	0.	0.	0.0090	0.0503	0.0245
1190.	2380.	26.95	0.	0.	0.0090	0.0546	0.0346
2380.	3570.	40.27	0.	0.	0.0090	0.0573	0.0424

(Source: Amended at ___ Ill. Reg. ______, effective ____________ __________)

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE B: AIR POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER c: EMISSIONS STANDARDS AND LIMITATIONS FOR STATIONARY SOURCES

PART 219
ORGANIC MATERIAL EMISSION STANDARDS AND LIMITATIONS FOR METRO EAST AREA

SUBPART A: GENERAL PROVISIONS

Section

SUBPART B: ORGANIC EMISSIONS FROM STORAGE AND LOADING OPERATIONS

Section

SUBPART C: ORGANIC EMISSIONS FROM MISCELLANEOUS EQUIPMENT

Section

SUBPART E: SOLVENT CLEANING

Section

219.183 Open Top Vapor Degreasing
219.184 Conveyorized Degreasing
219.185 Compliance Schedule (Repealed)
219.186 Test Methods

SUBPART F: COATING OPERATIONS

Section
219.204 Emission Limitations~~ for Manufacturing Plants~~
219.205 Daily-Weighted Average Limitations
219.206 Solids Basis Calculation
219.207 Alternative Emission Limitations
219.208 Exemptions From Emission Limitations
219.209 Exemption From General Rule on Use of Organic Material
219.210 Compliance Schedule
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SUBPART G: USE OF ORGANIC MATERIAL

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219.301 Use of Organic Material
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219.303 Fuel Combustion Emission ~~Sources~~Units
219.304 Operations with Compliance Program

SUBPART H: PRINTING AND PUBLISHING

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219.405 Heatset-Web-Offset Lithographic Printing

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Section
219.421 General Requirements
219.422 Inspection Program Plan for Leaks
219.423 Inspection Program for Leaks
219.424 Repairing Leaks
219.425 Recordkeeping for Leaks
219.426 Report for Leaks
219.427 Alternative Program for Leaks
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219.430 Compliance Date (Repealed)

SUBPART R: PETROLEUM REFINING AND RELATED INDUSTRIES; ASPHALT MATERIALS

SUBPART S: RUBBER AND MISCELLANEOUS PLASTIC PRODUCTS

SUBPART T: PHARMACEUTICAL MANUFACTURING

SUBPART V: AIR OXIDATION PROCESSES

SUBPART W: AGRICULTURE

SUBPART X: CONSTRUCTION

SUBPART Y: GASOLINE DISTRIBUTION

SUBPART Z: DRY CLEANERS

SUBPART AA: PAINT AND INK MANUFACTURING

219.636 Compliance Schedule
219.637 Recordkeeping and Reporting

SUBPART BB: POLYSTYRENE PLANTS

Section
219.640 Applicability ~~of Subpart BB~~
219.642 Emissions Limitation at Polystyrene Plants
219.644 Emissions Testing
219.875 Applicability of Subpart BB (Renumbered)
219.877 Emissions Limitation at Polystyrene Plants (Renumbered)
219.879 Compliance Date (Repealed)
219.881 Compliance Plan (Repealed)
219.883 Special Requirements for Compliance Plan (Repealed)
219.886 Emissions Testing (Renumbered)

SUBPART PP: MISCELLANEOUS FABRICATED PRODUCT MANUFACTURING PROCESSES

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219.920 Applicability
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Section
219.940 Applicability
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SUBPART RR: MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING PROCESSES

Section
219.960 Applicability
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219.966 Control Requirements
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SUBPART TT: OTHER EMISSION ~~SOURCES~~ UNITS

Section
219.980 Applicability
219.983 Permit Conditions
219.986 Control Requirements
219.987 Compliance Schedule

SUBPART UU: RECORDKEEPING AND REPORTING~~ FOR NON-CTG SOURCES~~

AUTHORITY: Implementing Section 10 and authorized by Section 28.5 of the Environmental Protection Act (Ill. Rev. Stat. 1991, ch. 111½, par. 1010) (P.A. 87-1213, effective September 26, 1992) [415 ILCS 5/10 and 28.5].

SOURCE: Adopted at R91-8 at 15 Ill. Reg. 12491, effective August 16, 1991; amended in R91-24 at 16 Ill. Reg. 13597, effective August 24, 1992; amended in R91-30 at 16 Ill. Reg. 13883, effective August 24, 1992; emergency amendment in R93-12 at Ill. Reg. 8295, effective May 24, 1993, for a maximum of 150 days, amended in R93-9 at 17 Ill. Reg. ______, effective ________________ ________________ and October 21, 1993.

SUBPART A: GENERAL PROVISIONS

Section 219.100 Introduction

a) This Part contains standards and limitations for emissions of organic material and volatile organic material from stationary sources located in the Metro-East area, which is comprised of Madison, Monroe, and St. Clair Counties.

b) Sources subject to this Part may be subject to the following:

1) Permits required under 35 Ill. Adm. Code 201~~;~~ and

2) Air quality standards under 35 Ill. Adm. Code 243~~;~~.

c) This Part is divided into Subparts which are grouped as follows:

1) Subpart A: General Provisions;

2) Subparts B-F: Emissions from equipment and operations in common to more than one industry;

3) Subpart G: Emissions from use of organic material;

4) Subparts H-~~and~~ RR: ~~Special r~~Rules for various industry groups.

5) Subpart TT: Rules for emission units not otherwise addressed.

6) Subpart UU: Recordkeeping and reporting for equipment and operation addressed by Subparts PP, QQ, RR and TT.

(Source: Amended at _____, Ill. Reg. _____, effective ___________________)

Section 219.101 ~~Cleanup and Disposal Operation~~Savings Clause

~~Emission of organic material released during clean-up operations and disposal shall be included with other emissions of organic material from the related emission source or air pollution control equipment in determining total emissions.~~

Every owner or operator of an emission unit formerly subject to 35 Ill. Adm. Code 215 shall have complied with its standards and limitations by the dates and schedules applicable to the emission unit in accordance with Part 215 or upon initial start-up. All compliance dates or schedules found in Part 215 are not superseded by this Part and remain in full force and effect.

(Source: Section repealed, new Section added at ______, Ill. Reg.___________, effective _____________________________________)

Section 219.102 Abbreviations and Conversion Factors

~~a) The following abbreviations are used in this Part:~~

~~ASTM~~	~~American Society for Testing and Materials~~
~~bbl~~	~~barrels (42 gallons)~~
~~°C~~	~~degrees Celsius or centigrade~~
~~cm~~	~~centimeters~~
~~cu in~~	~~cubic inches~~
~~°F~~	~~degrees Fahrenheit~~
~~FIP~~	~~Federal Implementation Plan~~
~~ft~~	~~feet~~
~~ft^2~~	~~square feet~~

~~g~~	~~grams~~
~~gpm~~	~~gallons per minute~~
~~g/mole~~	~~grams per mole~~
~~gal~~	~~gallons~~
~~hr~~	~~hours~~
~~in~~	~~inches~~
~~°K~~	~~degrees Kelvin~~
~~kcal~~	~~kilocalories~~
~~kg~~	~~kilograms~~
~~kg/hr~~	~~kilograms per hour~~
~~kPa~~	~~kilopascals; one thousand newtons per square meter~~
~~l~~	~~liters~~
~~l/sec~~	~~liters per second~~
~~lbs~~	~~pounds~~
~~lbs/hr~~	~~pounds per hour~~
~~lbs/gal~~	~~pounds per gallon~~
~~LEL~~	~~lower explosive limit~~
~~m~~	~~meters~~
~~m^2~~	~~square meters~~
~~m^3~~	~~cubic meters~~
~~mg~~	~~milligrams~~
~~Mg~~	~~Megagrams, metric tons or tonnes~~
~~ml~~	~~milliliters~~
~~min~~	~~minutes~~
~~MJ~~	~~megajoules~~
~~mm Hg~~	~~millimeters of mercury~~
~~ppm~~	~~parts per million~~
~~ppmv~~	~~parts per million by volume~~
~~psi~~	~~pounds per square inch~~
~~psia~~	~~pounds per square inch absolute~~
~~psig~~	~~pounds per square inch gauge~~
~~scf~~	~~standard cubic feet~~
~~scm~~	~~standard cubic meters~~
~~sec~~	~~seconds~~
~~SIP~~	~~State Implementation Plan~~
~~TTE~~	~~temporary total enclosure~~
~~sq cm~~	~~square centimeters~~
~~sq in~~	~~square inches~~
~~T~~	~~English ton~~
~~ton~~	~~English ton~~
~~USEPA~~	~~United States Environmental Protection Agency~~
~~VOC~~	~~volatile organic compounds~~
~~VOL~~	~~volatile organic liquids~~
~~VOM~~	~~volatile organic materials~~

~~b) The following conversion factors are used in this Part.~~

~~English~~	~~Metric~~
~~1 gal~~	~~3.785 l~~
~~1,000 gal~~	~~3,785 l or 3.785 m^3~~

~~1 psia~~	~~6.897 kPa (51.71 mm Hg)~~
~~2.205 lbs~~	~~1 kg~~
~~1 bbl~~	~~159.0 l~~
~~1 cu in~~	~~16.39 ml~~
~~1 lb/gal~~	~~119,800 mg/l~~
~~1 ton~~	~~0.907 Mg~~
~~1 T~~	~~0.907 Mg~~

The abbreviations and conversion factors of 35 Ill. Adm. Code 211 apply to this Part.

(Source: Amended at ____, Ill. Reg. ____ effective __________)

Section 219.104 Definitions

~~The following terms are defined for the purpose of this Part.~~

~~"Accelacota" means a pharmaceutical coating operation which consists of a horizontally rotating perforated drum in which tablets are placed, a coating is applied by spraying, and the coating is dried by the flow of air across the drum through the perforations.~~

~~"Accumulator" means the reservoir of a condensing unit receiving the condensate from a surface condenser.~~

~~"Acid Gases" means for the purposes of Section 9.4 of the Environmental Protection Act (the Act) (Ill. Rev. Stat. 1987, ch. 111 1/2, par. 1009.4), hydrogen chloride, hydrogen fluoride and hydrogen bromide, which exist as gases, liquid mist, or any combination thereof.~~

~~"Actual emissions" means the actual quantity of VOM emissions from an emission source during a particular time period.~~

~~"Actual Heat Input" means the quantity of heat produced by the combustion of fuel using the gross heating value of the fuel.~~

~~"Adhesive" means any substance or mixture of substances intended to serve as a joining compound.~~

~~"Afterburner" means a control device in which materials in gaseous effluent are combusted.~~

~~"Air contaminant" means any solid, liquid, or gaseous matter, any odor, or any form of energy, that is capable of being released into the atmosphere from an emission source.~~

~~"Air dried coatings" means any coatings that dry by use of air or forced air at temperatures up to 363.15°K (194°F).~~

~~"Air pollution" means the presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.~~

~~"Air pollution control equipment" means any equipment or facility of a type intended to eliminate, prevent, reduce or control the emission of specified air contaminants to the atmosphere.~~

~~"Air suspension coater/dryer" means a pharmaceutical coating operation which consists of vertical chambers in which tablets or particles are placed, and a coating is applied and then dried while the tablets or particles are kept in a fluidized state by the passage of air upward through the chambers.~~

~~"Airless spray" means a spray coating method in which the coating is atomized by forcing it through a small opening at high pressure. The coating liquid is not mixed with air before exiting from the nozzle.~~

~~"Air-assisted airless spray" means a spray coating method which combines compressed air with hydraulic pressure to atomize the coating material into finer droplets than is achieved with pure airless spray. Lower hydraulic pressure is used than with airless spray.~~

~~"Allowable emissions" means the quantity of VOM emissions during a particular time period from a stationary source calculated using the maximum rated capacity of the source (unless restricted by federally enforceable limitations on operating rate, hours of operation, or both) and the most stringent of: the applicable standards in 40 CFR Parts 60 and 61; the applicable implementation plan; or a federally enforceable permit.~~

~~"Ambient air quality standards" means those standards designed to protect the public health and welfare codified in 40 CFR Part 50 and promulgated from time to time by the USEPA pursuant to authority contained in Section 108 of the Clean Air Act, 42 U.S.C. 7401 et seq., as amended from time to time.~~

~~"Applicator" means a device used in a coating line to apply coating.~~

~~"As applied" means the exact formulation of a coating during application on or impregnation into a substrate.~~

~~"Architectural Coating" means any coating used for residential or commercial buildings or their appurtenances, or for industrial buildings, which is site applied.~~

~~"Asphalt" means the dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens which occur naturally or as a residue of petroleum refining.~~

~~"Asphalt Prime Coat" means a low-viscosity liquid asphalt applied to an absorbent surface as the first of more than one asphalt coat.~~

~~"Automobile" means a motor vehicle capable of carrying no more than 12 passengers.~~

~~"Automobile or light-duty truck assembly plant" means a facility where parts are assembled or finished for eventual inclusion into a finished automobile or light-duty truck ready for sale to vehicle dealers, but not including customizers, body shops, and other repainters.~~

~~"Automobile or light-duty truck refinishing" means the repainting of used automobiles and light-duty trucks.~~

~~"Baked coatings" means any coating which is cured or dried in an oven where the oven air temperature exceeds 90°C (194°F).~~

~~"Batch Loading" means the process of loading a number of individual parts at the same time for degreasing.~~

~~"Bead-Dipping" means the dipping of an assembled tire bead into a solvent-based cement.~~

~~"Binders" means organic materials and resins which do not contain VOM.~~

~~"Bituminous coatings" means black or brownish coating materials which are soluble in carbon disulfide, which consist mainly of hydrocarbons, and which are obtained from natural deposits or as residues from the distillation of crude oils or of low grades of coal.~~

~~"British Thermal Unit" means the quantity of heat required to raise one pound of water from 60°F to 61°F (abbreviated btu).~~

~~"Brush or wipe coating" means a manual method of applying a coating using a brush, cloth, or similar object.~~

~~"Bulk gasoline plant" means a gasoline storage and distribution facility with an average throughput of 76,000 l (20,000 gal) or less on a 30-day rolling average that distributes gasoline to gasoline dispensing facilities.~~

~~"Bulk Gasoline Terminal" means any gasoline storage and distribution facility that receives gasoline by pipeline, ship or barge, and distributes gasoline to bulk gasoline plants or gasoline dispensing facilities.~~

~~"Can" means any metal container, with or without a top, cover, spout or handles, into which solid or liquid materials are packaged.~~

~~"Can coating" means any coating applied on a single walled container that is manufactured from metal sheets thinner than 29 gauge (0.0141 in.).~~

~~"Can coating " means a facility that includes one or more can coating line(s).~~

~~"Can coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of cans or can components.~~

~~"Capture" means the containment or recovery of emissions from a process for direction into a duct which may be exhausted through a stack or vent to a control device. The overall abatement of emissions from a process with an add-on control device is a function both of the capture efficiency and of the control device.~~

~~"Capture device" means a hood, enclosed room floor sweep or other means of collecting solvent or other pollutants into a duct. The pollutant can then be directed to a pollution control device such as an afterburner or carbon adsorber. Sometimes the term is used loosely to include the control device.~~

~~"Capture efficiency" means the fraction of all VOM generated by a process that are directed to an abatement or recovery device.~~

~~"Capture system" means all equipment (including, but not limited to, hoods, ducts, fans, ovens, dryers, etc.) used to contain, collect and transport an air pollutant to a control device.~~

~~"Clean Air Act" means the Clean Air Act of 1963, as amended, including the Clean Air Act Amendments of 1977, (42 U.S.C. 7401 et seq.), and the Clean Air Act Amendments of 1990, (P.L. 101-549).~~

~~"Clear coating" means coatings that lack color and opacity or are transparent using the undercoat as a reflectant base or undertone color.~~

~~"Clear topcoat" means the final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.~~

~~"Closed Purge System" means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow inducing devices that transport liquid or vapor from a piece or pieces of equipment to a control device, or return the liquid or vapor to the process line.~~

~~"Closed vent system" means a system that is not open to the atmosphere and is composed of piping, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission source to a control device.~~

~~"Coating" means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes,sealers, adhesives, thinners, diluents, and inks.~~

~~"Coating applicator" means equipment used to apply a coating.~~

~~"Coating line" means an operation consisting of a series of one or more coating applicators and any associated flash-off areas, drying areas, and ovens wherein a surface coating is applied, dried, or cured. (It is not necessary for an operation to have an oven, or flash-off area, or drying area to be included in this definition.)~~

~~"Coating plant" means any plant that contains one or more coating line(s).~~

~~"Coil" means any flat metal sheet or strip that is rolled or wound in concentric rings.~~

~~"Coil coating" means any coating applied on any flat metal sheet or strip that comes in rolls or coils.~~

~~"Coil coating facility" means a facility that includes one or more coil coating line(s).~~

~~"Coil coating line" means a coating line in which any protective, decorative or functional coating is applied onto the surface of flat metal sheets, strips, rolls, or coils for industrial or commercial use.~~

~~"Cold cleaning" means the process of cleaning and removing soils from surfaces by spraying, brushing, flushing, or immersion while maintaining the organic solvent below its boiling point. Wipe cleaning is not included in this definition.~~

~~"Complete Combustion" means a process in which all carbon contained in a fuel or gas stream is converted to carbon dioxide.~~

~~"Component" means, with respect to synthetic organic chemical and polymer manufacturing equipment, and petroleum refining and related industries, any piece of equipment which has the potential to leak VOM including, but not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains, and open ended pipes. This definition excludes valves which are not externally regulated, flanges, and equipment in heavy liquid service. For purposes of Subpart Q of this Part, this definition also excludes bleed ports of gear pumps in polymer service.~~

~~"Concrete curing compounds" means any coating applied to freshly poured concrete to retard the evaporation of water.~~

~~"Condensate" means volatile organic liquid separated from its associated gases, which condenses due to changes in the temperature or pressure and remains liquid at standard conditions.~~

~~"Continuous process" means, with respect to polystyrene resin, a method of manufacture in which the styrene raw material is delivered on a continuous basis to the reactor in which the styrene is polymerized to polystyrene.~~

~~"Control device" means equipment (such as an afterburner or adsorber) used to remove or prevent the emission of air pollutants from a contaminated exhaust stream.~~

~~"Control device efficiency" means the ratio of the pollution prevented by a control device and the pollution introduced to the control device, expressed as a percentage.~~

~~"Conveyorized degreasing" means the continuous process of cleaning and removing soils from surfaces utilizing either cold or vaporized solvents.~~

~~"Crude oil" means a naturally occurring mixture which consists of hydrocarbons and sulfur, nitrogen, or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.~~

~~"Crude oil gathering" means the transportation of crude oil or condensate after custody transfer between a production facility and a reception point.~~

~~"Custody transfer" means the transfer of produced petroleum and/or condensate after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.~~

~~"Cutback Asphalt" means any asphalt which has been liquified by blending with petroleum solvents other than residual fuel oil and has not been emulsified with water.~~

~~"Daily-weighted average VOM content" means the average VOM content of two or more coatings as applied on a coating line during any day, taking into account the fraction of total coating volume that each coating represents, as calculated with the following equation:~~

$$\cancel{VOM_w = [\sum_{i=1}^{n} V_i \; C_i \;]/V_T}$$

~~where:~~

~~VOM$_w$ = The average VOM content of two or more coatings as applied each day on a coating line in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any~~

~~compounds which are specifically exempted from the definition of VOM),~~

~~n = The number of different coatings as applied each day on a coating line,~~

~~V_i = The volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on a coating line in units of l (gal).~~

~~C_i = The VOM content of each coating as applied each day on a coating line in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM), and~~

~~V_T = The total volume of all coatings (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on a coating line in units of l (gal).~~

~~"Day" means the consecutive 24 hours beginning at 12:00 AM (midnight) local time.~~

~~"Degreaser" means any equipment or system used in solvent cleaning.~~

~~"Delivery vessel" means any tank truck or trailer equipped with a storage tank that is used for the transport of gasoline to a stationary storage tank at a gasoline dispensing facility, bulk gasoline plant, or bulk gasoline terminal.~~

~~"Dip coating" means a method of applying coatings in which the part is submerged in a tank filled with the coating.~~

~~"Distillate Fuel Oil" means fuel oils of grade No. 1 or 2 as specified in detailed requirements for fuel oil ASTM D-369-69 (1971).~~

~~"Dry Cleaning Facility" means a facility engaged in the cleaning of fabrics using an essentially nonaqueous solvent by means of one or more solvent washes, extraction of excess solvent by spinning and drying by tumbling in an airstream. The facility includes, but~~

~~is not limited to, washers, dryers, filter and purification systems, waste disposal systems, holding tanks, pumps and attendant piping and valves.~~

~~"Effluent Water Separator" means any tank, box, sump or other apparatus in which any organic material floating on or entrained or contained in water entering such tank, box, sump or other apparatus is physically separated and removed from such water prior to outfall, drainage or recovery of such water.~~

~~"Electrostatic bell or disc spray" means an electrostatic spray coating method in which a rapidly-spinning bell- or disc-shaped applicator is used to create a fine mist and apply the coating with high transfer efficiency.~~

~~"Electrostatic spray" means a spray coating method in which opposite electrical charges are applied to the substrate and the coating. The coating is attracted to the object due to the electrostatic potential between them.~~

~~"Emission Rate" means total quantity of any air contaminant discharge into the atmosphere in any one-hour period.~~

~~"Emission source" and "source" mean any facility from which VOM is emitted or capable of being emitted into the atmosphere.~~

~~"Enamel" means a coating that cures by chemical cross-linking of its base resin. Enamels can be distinguished from lacquers because enamels are not readily resoluble in their original solvent.~~

~~"Enclose" means to cover any VOL surface that is exposed to the atmosphere.~~

~~"End sealing compound coat" means a compound applied to can ends which functions as a gasket when the end is assembled onto the can.~~

~~"Excess Air" means air supplied in addition to the theoretical quantity necessary for complete combustion of all fuel and/or combustible waste material.~~

~~"Excessive release" means a discharge of more than 295 g (0.65 lbs) of mercaptans and/or hydrogen sulfide into the atmosphere in any 5-minute period.~~

~~"Exterior base coat" means a coating applied to the exterior of a can body, or flat sheet to provide protection to the metal or to provide background for any lithographic or printing operation.~~

~~"Exterior end coat" means a coating applied to the exterior end of a can to provide protection to the metal.~~

~~"External floating roof" means a cover over an open top storage tank consisting of a double deck or pontoon single deck which rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.~~

~~"Extreme environmental conditions" means exposure to any or all of the following: ambient weather conditions; temperatures consistently above 95°C (203°F); detergents; abrasive and scouring agents; solvents; or corrosive atmospheres.~~

~~"Extreme performance coating" means any coating which during intended use is exposed to extreme environmental conditions.~~

~~"Fabric coating" means any coating applied on textile fabric. Fabric coating includes the application of coatings by impregnation.~~

~~"Fabric coating facility" means a facility that includes one or more fabric coating lines.~~

~~"Fabric coating line" means a coating line in which any protective, decorative, or functional coating or reinforcing material is applied on or impregnated into a textile fabric.~~

~~"Federally enforceable" means all limitations and conditions which are enforceable by the Administrator including those requirements developed pursuant to 40 CFR Parts 60 and 61; requirements within any applicable implementation plan; and any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51 Subpart I and 40 CFR 51.166.~~

~~"Final repair coat" means the repainting of any topcoat which is damaged during vehicle assembly.~~

~~"Firebox" means the chamber or compartment of a boiler or furnace in which materials are burned, but not the combustion chamber or afterburner of an incinerator.~~

~~"Fixed-roof tank" means a cylindrical shell with a permanently affixed roof.~~

~~"Flexographic printing" means the application of words, designs, and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of elastomeric materials.~~

~~"Flexographic printing line" means a printing line in which each roll printer uses a roll with raised areas for applying an image such as words, designs, or pictures to a substrate. The image carrier on the roll is made of rubber or other elastomeric material.~~

~~"Floating roof" means a roof on a stationary tank, reservoir, or other container which moves vertically upon change in volume of the stored material.~~

~~"Fountain solution" means the solution which is applied to the image plate to maintain hydrophilic properties of the non-image areas.~~

~~"Freeboard Height" means for open top vapor degreasers, the distance from the top of the vapor zone to the top of the degreaser tank. For cold cleaning degreasers, the distance from the solvent to the top of the degreaser tank.~~

~~"Fuel combustion emission source" means any furnace, boiler, or similar equipment used for the primary purpose of producing heat or power by indirect heat transfer.~~

~~"Fuel gas system" means a system for collection of refinery fuel gas including, but not limited to, piping for collecting tail gas from various process units, mixing drums and controls, and distribution piping.~~

~~"Gas service" means that the component contains process fluid that is in the gaseous state at operating conditions.~~

~~"Gas/gas method" means either of two methods for determining capture which rely only on gas phase measurements. The first method requires construction of a temporary total enclosure (TTE) to ensure that all would-be fugitive emissions are measured. The second~~

~~method uses the building or room which houses the facility as an enclosure. The second method requires that all other VOM sources within the room be shut down while the test is performed, but all fans and blowers within the room must be operated according to normal procedures.~~

~~"Gasoline" means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kPa or greater which is used as a fuel for internal combustion engines.~~

~~"Gasoline dispensing facility" means any site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline tank used to provide fuel to the engine of that motor vehicle.~~

~~"Green Tire Spraying" means the spraying of green tires, both inside and outside, with release compounds which help remove air from the tire during molding and prevent the tire from sticking to the mold after curing.~~

~~"Green Tires" means assembled tires before molding and curing have occurred.~~

~~"Gross vehicle weight" means the manufacturer's gross weight rating for the individual vehicle.~~

~~"Gross vehicle weight rating" means the value specified by the manufacturer as the maximum design loaded weight of a single vehicle.~~

~~"Heated airless spray" means an airless spray coating method in which the coating is heated just prior to application.~~

~~"Heatset" means a class of web-offset lithography which requires a heated dryer to solidify the printing inks.~~

~~"Heatset-web-offset lithographic printing line" means a lithographic printing line in which a blanket cylinder is used to transfer ink from a plate cylinder to a substrate continuously fed from a roll or an extension process and an oven is used to solidify the printing inks.~~

~~"Heavy liquid" means liquid with a true vapor pressure of less than 0.3 kPa (0.04 psi) at 294.3°K (70°F) established in a standard reference text or as determined by ASTM method D2879-86 (incorporated by reference in Section 219.112); or which has 0.1 Reid Vapor Pressure as determined by ASTM method D323-82~~

~~(incorporated by reference in Section 219.112); or which when distilled requires a temperature of 421.95°K (300°F) or greater to recover 10 percent of the liquid as determined by ASTM method D86-82 (incorporated by reference in Section 219.112).~~

~~"Heavy off-highway vehicle products" means, for the purpose of Subpart F of this Part, heavy construction, mining, farming, or material handling equipment; heavy industrial engines; diesel-electric locomotives and associated power equipment; and the components of such equipment or engines.~~

~~"Heavy off-highway vehicle products coating facility" means a facility that includes one or more heavy off-highway vehicle products coating line(s).~~

~~"Heavy off-highway vehicle products coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of heavy off-highway vehicle products.~~

~~"High temperature aluminum coating" means a coating that is certified to withstand a temperature of 537.8°C (1000°F) for 24 hours.~~

~~"Hood" means a partial enclosure or canopy for capturing and exhausting, by means of a draft, the organic vapors or other fumes rising from a coating process or other source.~~

~~"Hood capture efficiency" means the emissions from a process which are captured by the hood and directed into a control device, expressed as a percentage of all emissions.~~

~~"Hot well" means the reservoir of a condensing unit receiving the condensate from a barometric condenser.~~

~~"Hour" means a block period of 60 minutes (e.g., 1:00am to 2:00am).~~

~~"In-process tank" means a container used for mixing, blending, heating, reacting, holding, crystallizing, evaporating or cleaning operations in the manufacture of pharmaceuticals.~~

~~"In-situ Sampling Systems" means nonextractive samplers or in-line samplers.~~

~~"In vacuum service" means, for the purpose of Subpart Q of this Part, equipment which is operating at an~~

~~internal pressure that is at least 5 kPa (0.73 psia) below ambient pressure.~~

~~"Incinerator" means a combustion apparatus in which refuse is burned.~~

~~"Indirect heat transfer" means transfer of heat in such a way that the source of heat does not come into direct contact with process materials.~~

~~"Ink" means a coating used in printing, impressing, or transferring an image onto a substrate.~~

~~"Interior body spray coat" means a coating applied by spray to the interior of a can body.~~

~~"Internal-floating roof" means a cover or roof in a fixed-roof tank which rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.~~

~~"Lacquers" means any clear wood finishes formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction, including clear lacquer sanding sealers.~~

~~"Large appliance" means any residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, and other similar products.~~

~~"Large appliance coating" means any coating applied to the component metal parts (including, but not limited to, doors, cases, lids, panels, and interior support parts) of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, and other similar products.~~

~~"Large appliance coating facility" means a facility that includes one or more large appliance coating line(s).~~

~~"Large appliance coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of large appliances.~~

~~"Light liquid" means VOM in the liquid state which is not defined as heavy liquid.~~

~~"Light-duty truck" means any motor vehicle rated at 3,850 kg gross vehicle weight or less, designed mainly to transport property.~~

~~"Liquid/gas method" means either of two methods for determining capture which require both gas phase and liquid phase measurements and analysis. The first method requires construction of a TTE. The second method uses the building or room which houses the facility as an enclosure. The second method requires that all other VOM sources within the room be shut down while the test is performed, but all fans and blowers within the room must be operated according to normal procedures.~~

~~"Liquid-Mounted Seal" means a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof edge around the circumference of the roof.~~

~~"Liquid service" means that the equipment or component contains process fluid that is in a liquid state at operating conditions.~~

~~"Liquids Dripping" means any visible leaking from a seal including spraying, misting, clouding and ice formation.~~

~~"Lithographic printing line" means a printing line, except that the substrate is not necessarily fed from an unwinding roll, in which each roll printer uses a roll where both the image and non-image areas are essentially in the same plane (planographic).~~

~~"Low Solvent Coating" means a coating which contains less organic solvent than the conventional coatings used by the industry. Low solvent coatings include water-borne, higher solids, electro-deposition and powder coatings.~~

~~"Magnet wire" means aluminum or copper wire formed into an electromagnetic coil.~~

~~"Magnet wire coating" means any coating or electrically insulating varnish or enamel applied to magnet wire.~~

~~"Magnet wire coating facility" means a facility that includes one or more magnet wire coating line(s).~~

~~"Magnet wire coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of a magnet wire.~~

~~"Malfunction" means any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.~~

~~"Manufacturing process" means a method whereby a process emission source or series of process emission sources is used to raw materials, feed stocks, subassemblies, or other components into a product, either for sale or for use as a component in a subsequent manufacturing process.~~

~~"Material Recovery Section" means any equipment designed to transport and recover styrene monomer and other impurities from other products and by-products in a polystyrene plant, including but not limited to the styrene devolatilizer unit and styrene recovery unit.~~

~~"Maximum theoretical emissions" means the quantity of volatile organic material emissions that theoretically could be emitted by a stationary source before add-on controls based on the design capacity or maximum production capacity of the source and 8760 hours per year. The design capacity or maximum production capacity includes use of coating(s) or ink(s) with the highest volatile organic material content actually used in practice by the source. Provided, however, the Agency shall, when appropriate, and upon request by the permit applicant, limit the "maximum theoretical emissions" of a source by the imposition of conditions in a federally enforceable operating permit for such source. Such conditions shall not be inconsistent with requirement of the Clean Air Act, as amended, or any applicable requirements established by the Board. Such conditions shall be established in place of design capacity or maximum production capacity in calculating the "maximum theoretical emissions" for such source and may include, among other things, the establishment of production limitations, capacity limitations, emission limitations, or limitations on the volatile organic material content of coatings or inks, or the hours of operation of any emission source, or a combination of any such limitations.~~

~~Production or capacity limitations shall be established on basis of no longer than one month except in those cases where a limit spanning a longer period of time is appropriate. In such cases, a rolling limit" shall be employed. Any production or capacity limitations shall~~

~~be verified through appropriate recordkeeping. (Board Note: The USEPA may deem operating permits which do not conform to the operating permit program requirements and the requirements of USEPA's underlying regulations, including the requirement that limitations be quantifiable and enforceable as a practical matter, not "federally enforceable.")~~

~~"Metal furniture" means a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, lamps, and room dividers.~~

~~"Metal furniture coating" means any non-adhesive coating applied to any furniture piece made of metal or any metal part which is or will be assembled with other metal, wood, fabric, plastic or glass parts to form a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, lamps, and room dividers. This definition shall not apply to any coating line coating miscellaneous metal parts or products.~~

~~"Metal furniture coating facility" means a facility that includes one or more metal furniture coating line(s).~~

~~"Metal furniture coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of metal furniture.~~

~~"Metallic shoe-type seal" means a primary or secondary seal constructed of metal sheets (shoes) which are joined together to form a ring, springs, or levers which attach the shoes to the floating roof and hold the shoes against the tank wall, and a coated fabric which is suspended from the shoes to the floating roof.~~

~~"Miscellaneous fabricated product manufacturing process" means:~~

> ~~A manufacturing process involving one or more of the following applications, including any drying and curing of formulations, and capable of emitting VOM:~~
>
> > ~~Adhesives to fabricate or assemble components or products~~
> >
> > ~~Asphalt solutions to paper or fiberboard~~

~~Asphalt to paper or felt~~

~~Coatings or dye to leather~~

~~Coatings to plastic~~

~~Coatings to rubber or glass~~

~~Disinfectant material to manufactured items~~

~~Plastic foam scrap or "fluff" from the manufacture of foam containers and packaging material to form resin pallets~~

~~Resin solutions to fiber substances~~

~~Viscose solutions for food casings~~

~~The storage and handling of formulations associated with the process described above, and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition.~~

~~"Miscellaneous formulation manufacturing process" means:~~

~~A manufacturing process which compounds one or more of the following and is capable of emitting VOM:~~

~~Adhesives~~

~~Asphalt solutions~~

~~Caulks, sealants, or waterproofing agents~~

~~Coatings, other than paint and ink~~

~~Concrete curing compounds~~

~~Dyes~~

~~Friction materials and compounds~~

~~Resin solutions~~

~~Rubber solutions~~

~~Viscose solutions~~

> ~~The storage and handling of formulations associated with the process described above, and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition.~~

~~"Miscellaneous metal parts or products" means any metal part or metal product, even if attached to or combined with a nonmetal part or product, except cans, coils, metal furniture, large appliances, magnet wire, automobiles, ships, and airplane bodies.~~

~~"Miscellaneous metal parts and products coating" means any coating applied to any metal part or metal product, even if attached to or combined with a nonmetal part or product, except cans, coils, metal furniture, large appliances, and magnet wire. Prime coat, prime surfacer coat, topcoat, and final repair coat for automobiles and light-duty trucks are not miscellaneous metal parts and products coatings. However, underbody anti-chip (e.g., underbody plastisol) automobile and light-duty truck coatings are miscellaneous metal parts and products coatings. Also, automobile or light-duty truck refinishing coatings, coatings applied to the exterior of marine vessels, coatings applied to the exterior of airplanes, and the customized topcoating of automobiles and trucks if production is less than 35 vehicles per day are not miscellaneous metal parts and products coatings.~~

~~"Miscellaneous metal parts or products coating facility" means a facility that includes one or more miscellaneous metal parts or products coating lines.~~

~~"Miscellaneous metal parts or products coating line" means a coating line in which any protective, decorative, or functional coating is applied onto the surface of miscellaneous metal parts or products.~~

~~"Miscellaneous organic chemical manufacturing process" means:~~

> ~~A manufacturing process which produces, by chemical reaction, one or more of the following organic compounds or mixtures of organic compounds and which is capable of emitting VOM:~~
>
> > ~~Chemicals listed in Appendix A of this Part~~
> >
> > ~~Chlorinated and sulfonated compounds~~

~~Cosmetic, detergent, soap, or surfactant intermediaries or specialties and products~~

~~Disinfectants~~

~~Food additives~~

~~Oil and petroleum product additives~~

~~Plasticizers~~

~~Resins or polymers~~

~~Rubber additives~~

~~Sweeteners~~

~~Varnishes~~

~~The storage and handling of formulations associated with the process described above and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition.~~

~~"Monitor" means to measure and record.~~

~~"Multiple package coating" means a coating made from more than one different ingredient which must be mixed prior to using and has a limited pot life due to the chemical reaction which occurs upon mixing.~~

~~"No Detectable Volatile Organic Material Emissions" means a discharge of volatile organic material into the atmosphere as indicated by an instrument reading of less than 500 ppm above background as determined in accordance with 40 CFR 60.485(c).~~

~~"Offset" means, with respect to printing and publishing operations, use of a blanket cylinder to transfer ink from the plate cylinder to the surface to be printed.~~

~~"Opaque stains" means all stains that are not semi-transparent stains.~~

~~"Open top vapor degreasing" means the batch process of cleaning and removing soils from surfaces by condensing hot solvent vapor on the colder metal parts.~~

~~"Open-ended valve" means any valve, except pressure relief devices, having one side of the valve in contact~~

~~with process fluid and one side open to the atmosphere, either directly or through open piping.~~

~~"Operator of Gasoline Dispensing Facility" means any person who is the lessee of or operates, controls or supervises a gasoline dispensing facility.~~

~~"Organic compound" means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.~~

~~"Organic material" means any chemical compound of carbon including diluents and thinners which are liquids at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents, but excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbonic acid, metallic carbide, metallic carbonates, and ammonium carbonate.~~

~~"Organic vapor" means the gaseous phase of an organic material or a mixture of organic materials present in the atmosphere.~~

~~"Oven" means a chamber within which heat is used for one or more of the following purposes: dry, bake, cure, or polymerize a coating or ink.~~

~~"Overall control" means the product of the capture efficiency and the control device efficiency.~~

~~"Overvarnish" means a transparent coating applied directly over ink or coating.~~

~~"Owner of Gasoline Dispensing Facility" means any person who has legal or equitable title to a stationary storage tank at a gasoline dispensing facility.~~

~~"Owner or operator" means any person who owns, operates, leases, controls, or supervises an emission source or air pollution control equipment.~~

~~"Packaging rotogravure printing" means rotogravure printing upon paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operations, formed into packaging products or labels for articles to be sold.~~

~~"Packaging rotogravure printing line" means a rotogravure printing line in which surface coatings are applied to paper, paperboard, foil, film, or other~~

~~substrates which are to be used to produce containers, packaging products, or labels for articles.~~

~~"Paint manufacturing plant" means a plant that mixes, blends, or compounds enamels, lacquers, sealers, shellacs, stains, varnishes, or pigmented surface coatings.~~

~~"Paper coating" means any coating applied on paper, plastic film, or metallic foil to make certain products, including (but not limited to) adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, or pressure sensitive tapes. Paper coating includes the application of coatings by impregnation and/or saturation.~~

~~"Paper coating facility" means a facility that includes one or more paper coating lines.~~

~~"Paper coating line" means a coating line in which any protective, decorative, or functional coating is applied on, saturated into, or impregnated into paper, plastic film, or metallic foil to make certain products, including (but not limited to) adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, and pressure sensitive tapes.~~

~~"Parts per million (volume)" means a volume/volume ratio which expresses the volumetric concentration of gaseous air contaminant in a million unit volume of gas.~~

~~"Person" means any individual, corporation, partnership, association, State, municipality, political subdivision of a State; any agency, department, or instrumentality of the United States; and any officer, agent, or employee thereof.~~

~~"Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.~~

~~"Petroleum Liquid" means crude oil, condensate or any finished or intermediate product manufactured at a petroleum refinery, but not including Number 2 through Number 6 fuel oils as specified in ASTM D-396-69, gas turbine fuel oils Numbers 2-GT through 4-GT as specified in ASTM D-2880-71 or diesel fuel oils Numbers 2-D and 4-D, as specified in ASTM D-975-68.~~

~~"Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products~~

~~through distillation of petroleum, or through redistillation, cracking, or reforming of unfinished petroleum derivatives.~~

~~"Pharmaceutical" means any compound or mixture, other than food, used in the prevention, diagnosis, alleviation, treatment, or cure of disease in human and animal.~~

~~"Pharmaceutical coating operation" means a device in which a coating is applied to a pharmaceutical, including air drying or curing of the coating.~~

~~"Photochemically Reactive Material" means any organic material with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or the composition of which exceeds any of the following individual percentage composition limitations. Whenever any photochemically reactive material or any constituent of any organic material may be classified from its chemical structure into more than one of the above groups of organic materials it shall be considered as a member of the most reactive group, that is, the group having the least allowable percent of the total organic materials.~~

> ~~A combination of hydrocarbons, alcohols, aldehydes, esters, ethers or ketones having an olefinic or cyclo-olefinic types of unsaturation: 5 percent. This definition does not apply to perchloroethylene or trichloroethylene.~~
>
> ~~A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.~~
>
> ~~A combination of ethylbenzene, ketones having branched hydrocarbon structures or toluene: 20 percent.~~

~~"Pigmented coatings" means opaque coatings containing binders and colored pigments which are formulated to conceal the wood surface either as an undercoat or topcoat.~~

~~"Plant" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control), except the activities of any marine vessel. Pollutant-emitting activities shall be considered as part of the same~~

~~industrial grouping if they belong to the same "Major Group" (i.e., which have the same two-digit code) as described in the "Standard Industrial Classification Manual, 1987" (incorporated by reference in Section 219.112).~~

~~"Plasticizers" means a substance added to a polymer composition to soften and add flexibility to the product.~~

~~"Pneumatic Rubber Tire Manufacture" means the production of pneumatic rubber tires with a bead diameter up to but not including 20.0 inches and cross section dimension up to 12.8 inches, but not including specialty tires for antique or other vehicles when produced on equipment separate from normal production lines for passenger or truck type tires.~~

~~"Polystyrene Plant" means any plant using styrene to manufacture polystyrene resin.~~

~~"Polystyrene Resin" means substance consisting of styrene polymer and additives which is manufactured at a polystyrene plant.~~

~~"Pressure Release" means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.~~

~~"Pressure Tank" means a tank in which fluids are stored at a pressure greater than atmospheric pressure.~~

~~"Prime coat" means the first of two or more coatings applied to a surface.~~

~~"Prime surfacer coat" means a coating used to touch up areas on the surface of automobile or light-duty truck bodies not adequately covered by the prime coat before application of the top coat. The prime surfacer coat is applied between the prime coat and topcoat. An anti-chip coating applied to main body parts (e.g., rocker panels, bottom of doors and fenders, and leading edge of roof) is a prime surfacer coat.~~

~~"Primers" means any coatings formulated and applied to substrates to provide a firm bond between the substrate and subsequent coats.~~

~~"Printing" means the application of words, designs, and pictures to a substrate using ink.~~

~~"Printing line" means an operation consisting of a series of one or more roll printers and any associated roll coaters, drying areas, and ovens wherein one or more coatings are applied, dried, and/or cured.~~

~~"Process" means any stationary emission source other than a fuel combustion emission source or an incinerator.~~

~~"Process Unit" means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in 35 Ill. Adm. Code 219 Appendix A. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.~~

~~"Process Unit Shutdown" means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare components and technically feasible bypassing of components without stopping production is not a process unit shutdown.~~

~~"Production equipment exhaust system" means a system for collecting and directing into the atmosphere emissions of volatile organic material from reactors, centrifuges, and other process emission sources.~~

~~"Publication rotogravure printing line" means a rotogravure printing line in which coatings are applied to paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, or other types of printed material.~~

~~"Purged Process Fluid" means liquid or vapor from a process unit that contains volatile organic material and that results from flushing or cleaning the sample line(s) of a process unit so that an uncontaminated sample may then be taken for testing or analysis.~~

~~"Reactor" means a vat, vessel, or other device in which chemical reactions take place.~~

~~"Reasonably Available Control Technology (RACT)" means the lowest emission limitation that an emission source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.~~

~~"Refiner" means any person who owns, leases, operates, controls, or supervises a refinery.~~

~~"Refinery Fuel Gas" means any gas which is generated by a petroleum refinery process unit and which is combusted at the refinery, including any gaseous mixture of natural gas and fuel gas.~~

~~"Refinery unit, process unit or unit" means a set of components which are a part of a basic process operation such as distillation, hydrotreating, cracking, or reforming of hydrocarbons.~~

~~"Refrigerated condenser" means a surface condenser in which the coolant supplied to the condenser has been cooled by a mechanical device, other than by a cooling tower or evaporative spray cooling, such as refrigeration unit or steam chiller unit.~~

~~"Reid vapor pressure" means the standardized measure of the vapor pressure of a liquid in pounds per square inch absolute (Psia) at 100°F (37.8°C).~~

~~"Repair coatings" means coatings used to correct imperfections or damage to furniture surface.~~

~~"Repaired" means, for the purpose of Subpart Q of this Part, that equipment component has been adjusted, or otherwise altered, to eliminate a leak.~~

~~"Residual Fuel Oil" means fuel oils of grade No. 4, 5 and 6 as specified in detailed requirements for fuel oils A.S.T.M. D-396-69 (1971).~~

~~"Retail Outlet" means any gasoline dispensing facility at which gasoline is sold or offered for sale for use in motor vehicles.~~

~~"Roll coater" means an apparatus in which a uniform layer of coating is applied by means of one or more rolls across the entire width of a moving substrate.~~

~~"Roll printer" means an apparatus used in the application of words, designs, and pictures to a substrate, usually by means of one or more rolls each with only partial coverage.~~

~~"Roll printing" means the application of words, designs, and pictures to a substrate usually by means of a series of hard rubber or metal rolls each with only partial coverage.~~

~~"Roller coating" means a method of applying a coating to a sheet or strip in which the coating is transferred by a roller or series of rollers.~~

~~"Rolling limit" means that a limit or limitation must not exceed an annual limit rolled on a basis of at most a month monthly basis; that is, for example, a monthly production or capacity level must be determined for each parameter subject to a production or capacity limitation and added to the eleven prior monthly levels for monthly comparison with the annual limit.~~

~~"Rotogravure printing" means the application of words, designs, and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is recessed relative to the non-image area.~~

~~"Rotogravure printing line" means a printing line in which each roll printer uses a roll with recessed areas for applying an image to a substrate.~~

~~"Safety relief valve" means a valve which is normally closed and which is designed to open in order to relieve excessive pressures within a vessel or pipe.~~

~~"Sanding sealers" means any coatings formulated for and applied to bare wood for sanding and to seal the wood for subsequent application of varnish. To be considered a sanding sealer a coating must be clearly labelled as such.~~

~~"Sealer" means a coating containing binders which seals wood prior to the application of the subsequent coatings.~~

~~"Sensor" means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.~~

~~"Semi-transparent stains" means stains containing dyes or semi-transparent pigments which are formulated to enhance wood grain and change the color of the surface but not to conceal the surface, including, but not limited to, sap stain, toner, non-grain raising stains, pad stain, or spatter stain.~~

~~"Set of safety relief valves" means one or more safety relief valves designed to open in order to relieve excessive pressures in the same vessel or pipe.~~

~~"Sheet basecoat" means a coating applied to metal when the metal is in sheet form to serve as either the~~

~~exterior or interior of a can for either two-piece or three-piece cans.~~

~~"Side-seam spray coat" means a coating applied to the seam of a three-piece can.~~

~~"Single coat" means one coating application applied to a metal surface.~~

~~"Solvent" means a liquid substance that is used to dissolve or dilute another substance.~~

~~"Solvent cleaning" means the process of cleaning soils from surfaces by cold cleaning, open top vapor degreasing, or conveyorized degreasing.~~

~~"Specified air contaminant" means any air contaminant as to which this Part contains emission standards or other specific limitations.~~

~~"Splash loading" means a method of loading a tank, railroad tank car, tank truck, or trailer by use of other than a submerged loading pipe.~~

~~"Stack" means a flue or conduit, free-standing or with exhaust port above the roof of the building on which it is mounted, by which air contaminants are emitted into the atmosphere.~~

~~"Standard conditions" means a temperature of 70°F and a pressure of 14.7 psia.~~

~~"Standard cubic foot (scf)" means the volume of one cubic foot of gas at standard conditions.~~

~~"Standard Industrial Classification Manual" means the Standard Industrial Classification Manual (1987), Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 (incorporated by reference in Section 219.112).~~

~~"Start-up" means the setting in operation of an emission source for any purpose.~~

~~"Stationary emission source" mean an emission source which is not self-propelled.~~

~~"Storage tank or storage vessel" means any stationary tank, reservoir or container used for the storage of VOL.~~

~~"Styrene Devolatilizer Unit" means equipment performing the function of separating unreacted styrene monomer and other volatile components from polystyrene in a vacuum devolatilizer.~~

~~"Styrene Recovery Unit" means equipment performing the function of separating styrene monomer from other less volatile components of the styrene devolatilizer unit's output. The separated styrene monomer may be reused as a raw material in the polystyrene plant.~~

~~"Submerged loading pipe" means any discharge pipe or nozzle which meets either of the following conditions:~~

> ~~Where the tank is filled from the top, the end of the discharge pipe or nozzle must be totally submerged when the liquid level is 15 cm (6 in.) above the bottom of the tank.~~
>
> ~~Where the tank is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is 46 cm (18 in.) above the bottom of the tank.~~

~~"Substrate" means the surface onto which a coating is applied or into which a coating is impregnated.~~

~~"Surface condenser" means a device which removes a substance from a gas stream by reducing the temperature of the stream, without direct contact between the coolant and the stream.~~

~~"Synthetic Organic Chemical or Polymer Manufacturing Plant" means a plant that produces, as intermediates or final products, one or more of the chemicals or polymers listed in 35 Ill. Adm. Code 219 Appendix A.~~

~~"Tablet coating operation" means a pharmaceutical coating operation in which tablets are coated.~~

~~"Thirty-day rolling average" means any value arithmetically averaged over any consecutive thirty-days.~~

~~"Three-piece can" means a can which is made from a rectangular sheet and two circular ends.~~

~~"Topcoat" means a coating applied in a multiple coat operation other than prime coat, final repair coat, or prime surfacer coat.~~

~~"Topcoat operation" means all topcoat spray booths, flash-off areas, and bake ovens at a facility which are used to apply, dry, or cure the final coatings (except final off-line repair) on components of automobile or light-duty truck bodies.~~

~~"Transfer efficiency" means the ratio of the amount of coating solids deposited onto a part or product to the total amount of coating solids used.~~

~~"Tread End Cementing" means the application of a solvent-based cement to the tire tread ends.~~

~~"True vapor pressure" means the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks," second edition, February 1980 (incorporated by reference in Section 219.112).~~

~~"Turnaround" means the procedure of shutting down an operating refinery unit, emptying gaseous and liquid contents to do inspection, maintenance and repair work, and putting the unit back into production.~~

~~"Two-piece can" means a can which is drawn from a shallow cup and requires only one end to be attached.~~

~~"Undercoaters" means any coatings formulated for and applied to substrates to provide a smooth surface for subsequent coats.~~

~~"Undertread Cementing" means the application of a solvent-based cement to the underside of a tire tread.~~

~~Unregulated safety relief valve" means a safety relief valve which cannot be actuated by a means other than high pressure in the pipe or vessel which it protects.~~

~~"Vacuum producing system" means any reciprocating, rotary, or centrifugal blower or compressor or any jet ejector or device that creates suction from a pressure below atmospheric and discharges against a greater pressure.~~

~~"Valves not externally regulated" means valves that have no external controls, such as in-line check valves.~~

~~"Vapor balance system" means any combination of pipes or hoses which creates a closed system between the~~

~~vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.~~

~~"Vapor collection system" means all piping, seals, hoses, connections, pressure-vacuum vents, and other possible sources between the gasoline delivery vessel and the vapor processing unit and/or the storage tanks and vapor holder.~~

~~"Vapor control system" means any system that limits or prevents release to the atmosphere of organic material in the vapors displaced from a tank during the transfer of gasoline.~~

~~"Vapor-Mounted Primary Seal" means a primary seal mounted with an air space bounded by the bottom of the primary seal, the tank wall, the liquid surface and the floating roof.~~

~~"Vapor recovery system" means a vapor gathering system capable of collecting all VOM vapors and gases discharged from the storage tank and a vapor disposal system capable of processing such VOM vapors and gases so as to prevent their emission to the atmosphere.~~

~~"Vehicle" means a device by which any person or property may be propelled, moved, or drawn upon a highway, excepting a device moved exclusively by human power or used exclusively upon stationary rails or tracks.~~

~~"Vinyl coating" means any topcoat or printing ink applied to vinyl coated fabric or vinyl sheets. Vinyl coating does not include plastisols.~~

~~"Vinyl coating facility" means a facility that includes one or more vinyl coating line(s).~~

~~"Vinyl coating line" means a coating line in which any protective, decorative or functional coating is applied onto vinyl coated fabric or vinyl sheets.~~

~~"Volatile organic liquid (VOL)" means any substance which is liquid at storage conditions and which contains volatile organic compounds.~~

~~"Volatile organic material (VOM) or volatile organic compound (VOC)" means "volatile organic material (VOM) or volatile organic compound (VOC)", as that term is defined in 35 Ill. Adm. Code Part 211.~~

~~"Volatile Petroleum Liquid" means any petroleum liquid with a true vapor pressure that is greater than 1.5 psia (78 millimeters of mercury) at standard conditions.~~

~~"Wash coat" means a coating containing binders which seals wood surfaces, prevents undesired staining, and controls penetration.~~

~~"Wastewater (Oil/Water) Separator" means any device or piece of equipment which utilizes the difference in density between oil and water to remove oil and associated chemicals from water, or any device, such as a flocculation tank or a clarifier, which removes petroleum derived compounds from waste water.~~

~~"Web" means a substrate which is printed in continuous roll-fed presses.~~

~~"Wood furniture" means room furnishings including cabinets (kitchen, bath, and vanity), tables, chairs, beds, sofas, shutters, art objects, wood paneling, wood flooring, and any other coated furnishings made of wood, wood composition, or fabricated wood materials.~~

~~"Wood furniture coating facility" means a facility that includes one or more wood furniture coating line(s).~~

~~"Wood furniture coating line" means a coating line in which any protective, decorative, or functional coating is applied onto wood furniture.~~

~~"Woodworking" means the shaping, sawing, grinding, smoothing, polishing, and making into products of any form or shape of wood.~~

The definitions of 35 Ill. Adm. Code 211 apply to this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 219.105 Test Methods and Procedures

a) Coatings, Inks and Fountain Solutions

The following test methods and procedures shall be used to determine compliance of as applied coatings, inks, and fountain solutions with the limitations set forth in this Part.

1) Sampling: Samples collected for analyses shall be one-liter taken into a one-liter container at a

location and time such that the sample will be representative of the coating as applied (i.e., the sample shall include any dilution solvent or other VOM added during the manufacturing process). The container must be tightly sealed immediately after the sample is taken. Any solvent or other VOM added after the sample is taken must be measured and accounted for in the calculations in subsection (a)(3) of this Section. For multiple package coatings, separate samples of each component shall be obtained. A mixed sample shall not be obtained as it will cure in the container. Sampling procedures shall follow the guidelines presented in:

A) ASTM D3925-81(1985) standard practice for sampling liquid paints and related pigment coating. This practice is incorporated by reference in Section 219.112 of this Part.

B) ASTM E300-86 standard practice for sampling industrial chemicals. This practice is incorporated by reference in Section 219.112 of this Part.

2) Analyses: The applicable analytical methods specified below shall be used to determine the composition of coatings, inks, or fountain solutions as applied.

A) Method 24 of 40 CFR 60, Appendix A, incorporated by reference in Section 219.112 of this Part, shall be used to determine the VOM content and density of coatings. If it is demonstrated to the satisfaction of the Agency and the USEPA that plant coating formulation data are equivalent to Method 24 results, formulation data may be used. In the event of any inconsistency between a Method 24 test and a facility's formulation data, the Method 24 test will govern.

B) Method 24A of 40 CFR Part 60, Appendix A, incorporated by reference in Section 219.112, shall be used to determine the VOM content and density of rotogravure printing inks and related coatings. If it is demonstrated to the satisfaction of the Agency and USEPA that the plant coating formulation data are equivalent to Method 24A results, formulation data may be used. In the event of any inconsistency between a Method 24A test and ~~a~~

~~facility's~~ formulation data, the Method 24A test will govern.

C) The following ASTM methods are the analytical procedures for determining VOM:

i) ASTM D1475-85: Standard test method for density of paint, varnish, lacquer and related products. This test method is incorporated by reference in Section 219.112 of this Part.

ii) ASTM D2369-87: Standard test method for volatile content of a coating. This test method is incorporated by reference in Section 219.112 of this Part.

iii) ASTM D3792-86: Standard test method for water content of water-reducible paints by direct injection into a gas chromatograph. This test method is incorporated by reference in Section 219.112 of this Part.

iv) ASTM D4017-81(1987): Standard test method for water content in paints and paint materials by the Karl Fischer method. This test method is incorporated by reference in Section 219.112 of this Part.

v) ASTM D4457-85: Standard test method for determination of dichloromethane and 1,1,1, trichloroethane in paints and coatings by direct injection into a gas chromatograph. (The procedure delineated above can be used to develop protocols for any compounds specifically exempted from the definition of VOM.) This test method is incorporated by reference in Section 219.112 of this Part.

vi) ASTM D2697-86: Standard test method for volume non-volatile matter in clear or pigmented coatings. This test method is incorporated by reference in Section 219.112 of this Part.

vii) ASTM D3980-87: Standard practice for interlaboratory testing of paint and related materials. This practice is

incorporated by reference in Section 219.112 of this Part.

viii) ASTM E180-85: Standard practice for determining the precision ~~data~~ of ASTM methods for analysis of and testing of industrial chemicals. This practice is incorporated by reference in Section 219.112 of this Part.

ix) ASTM D2372-85: Standard method of separation of vehicle from solvent-reducible paints. This method is incorporated by reference in Section 219.112 of this Part.

D) Use of an adaptation to any of the analytical methods specified in subsections (a)(2)(A), (B), and (C) of this Section may not be used unless approved by the Agency and USEPA. An owner or operator must submit sufficient documentation for the Agency and USEPA to find that the analytical methods specified in subsections (a)(2)(A), (B), and (C) of this Section will yield inaccurate results and that the proposed adaptation is appropriate.

3) Calculations: Calculations for determining the VOM content, water content and the content of any compounds which are specifically exempted from the definition of VOM of coatings, inks and fountain solutions as applied shall follow the guidance provided in the following documents~~,~~:

A) "A Guide for Surface Coating Calculation", EPA-340/1-86-016, incorporated by reference in Section 219.112 of this Part.

B) "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coatings" (revised June 1986), EPA-450/3-84-019, incorporated by reference in Section 219.112 of this Part.

C) "A Guide for Graphic Arts Calculations", August 1988, EPA-340/1-88-003, incorporated by reference in Section 219.112 of this Part.

b) Automobile or Light-Duty Truck Test Protocol

1) The protocol for testing, including determining the transfer efficiency~~,~~ of coating applicators,

at primer surfacer operations and topcoat ~~coating~~ operations at an automobile or light-duty truck assembly ~~facility~~ source shall follow the procedure in: "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations" ("topcoat protocol"), December 1988, EPA-450/3-88-018, incorporated by reference in Section 219.112 of this Part.

2) Prior to testing pursuant to the topcoat protocol, the owner or operator of a coating operation subject to the topcoat or primer surfacer limit in Sections 219.204(a)(2) or 219.204(a)(3) shall submit a detailed testing proposal specifying the method by which testing will be conducted and how compliance will be demonstrated consistent with the topcoat protocol. The proposal shall include, at a minimum, a comprehensive plan (including a rationale) for determining the transfer efficiency at each booth through the use of in-plant or pilot testing, the selection of coatings to be tested (for the purpose of determining transfer efficiency) including the rationale for coating groupings, the method for determining the analytic VOM content of as applied coatings and the formulation solvent content of as applied coatings, and a description of the records of coating VOM content as applied and coating's usage which will be kept to demonstrate compliance. Upon approval of the proposal by the Agency and USEPA, the compliance demonstration for a coating line may proceed.

c) Capture System Efficiency Test Protocols

1) Applicability

The requirements of subsection (c)(2) of this Section shall apply to all VOM emitting processes~~es~~ emission units employing capture equipment (e.g., hoods, ducts), except those cases noted below.

A) If ~~a source installs~~an emission unit is equipped with (or uses) a permanent total enclosure (PTE) that meets Agency and USEPA specifications, and which directs all VOM to a control device, then the ~~source~~emission unit is exempted from the requirements described in subsection (c)(2) of this Section. The Agency and USEPA specifications to determine whether a structure is considered a PTE are given in Procedure T of Appendix B of this Part. In this instance, the capture efficiency is assumed to be 100 percent and the ~~source~~emission unit is still required to measure control efficiency using appropriate test methods as specified in subsection (d) of this Section.

B) If ~~a source uses~~an emission unit is equipped with (or uses) a control device designed to collect and recover VOM (e.g., carbon adsorber), an explicit measurement of capture efficiency is not necessary provided that the conditions given below are met. The overall control of the system can be determined by directly comparing the input liquid VOM to the recovered liquid VOM. The general procedure for use in this situation is given in 40 CFR 60.433, incorporated by reference in Section 219.112 of this Part, with the following additional restrictions:

i) ~~The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average, within 72 hours following the 24-hour period. In addition, one of the following two criteria must be met:~~ The source owner or operator shall obtain data each operating day for the solvent usage and solvent recovery to permit the determination of the solvent recovery efficiency of the system each operating day using a 7-day rolling period. The recovery efficiency for each operating day is computed as the ratio of the total recovered solvent for that day and the most recent prior 6 operating days to the total solvent usage for the same 7-day period used for the recovered solvent, rather than a 30-day weighted average as given in 40 CFR 60.433 incorporated by reference in Section 219.112 of this Part. This ratio shall be expressed as a percentage. The ratio shall be computed within 72 hours following each 7-day period. A source that believes that the 7-day rolling period is not appropriate may use an alternative multi-day rolling period not to exceed 30 days, with the approval of the Agency and USEPA. In addition, the criteria in subsection (c)(1)(B)(ii) or subsection (c)(1)(B)(iii) below must be met.

ii) The solvent recovery system (i.e., capture and control system) must be dedicated to a single coating line, printing line, or other discrete activity that by itself is subject to an applicable VOM emission standard, ~~process line (e.g., one process line venting to a carbon adsorber system),~~ or

iii) If the solvent recovery system controls more than one coating line, printing line or other discrete activity that by itself is subject to an applicable VOM emission standard, the overall control (i.e. the total recovered VOM divided by the sum of liquid VOM input from all lines and other activities venting to the control system) must meet or exceed the most stringent standard applicable to any line or other discrete activity venting to the control system.~~multiple process lines, then the source must be able to demonstrate that the overall control (i.e.,the total recovered solvent VOM divided by the sum of liquid VOM input to all process lines venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.~~

2) Specific Requirements

The capture efficiency of ~~a process line~~an emission unit shall be measured using one of the four protocols given below. Any error margin associated with a test protocol may not be incorporated into the results of a capture efficiency test. If these techniques are not suitable for a particular process, then ~~the source may use~~ an alternative capture efficiency protocol may be used, provided that the alternative protocol is approved by the Agency and approved by the USEPA as a SIP revision.

A) Gas/gas method using temporary total enclosure (TTE). The Agency and USEPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T of Appendix B of this Part. The capture efficiency equation to be used for this protocol is:

CE = Gw/(Gw + Fw)

where:

CE = capture efficiency, decimal fraction;

Gw = mass of VOM captured and delivered to control device using a TTE;

Fw = mass of fugitive VOM that escapes from a TTE.

Procedure G.2 contained in Appendix B of this Part is used to obtain Gw. Procedure F.1 in Appendix B of this Part is used to obtain Fw.

B) Liquid/gas method using TTE. The Agency and USEPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T of Appendix B of this Part. The capture efficiency equation to be used for this protocol is:

CE = (L - Fw)/L

where:

CE = capture efficiency, decimal fraction;

L = mass of liquid VOM input to process emission unit;

Fw = mass of fugitive VOM that escapes from a TTE.

Procedure L contained in Appendix B of this Part is used to obtain L. Procedure F.1 in Appendix B of this Part is used to obtain Fw.

C) Gas/gas method using the building or room (building or room enclosure), in which the affected coating line, printing line or other ~~source~~emission unit is located, as the enclosure and in which "F" and "G" are measured while operating only the affected line or ~~facility~~emission unit. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = G/(G + F_B)$$

where:

CE = capture efficiency, decimal fraction;

G = mass of VOM captured and delivered to control device;

F_B = mass of fugitive VOM that escapes from building enclosure.

Procedure G.2 contained in Appendix B of this Part is used to obtain G. Procedure F.2 in Appendix B of this Part is used to obtain F_B.

D) Liquid/gas method using the building or room (building or room enclosure), in which the affected coating line, printing line or other ~~source~~emission unit is located, as the enclosure and in which "F" and "L" are measured while operating only the affected line ~~facility~~ emission unit. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = (L - F_B)/L$$

where:

CE = capture efficiency, decimal fraction;

L = mass of liquid VOM input to process emission unit;

F_B = mass of fugitive VOM that escapes from building enclosure.

Procedure L contained in Appendix B of this Part is used to obtain L. Procedure F.2 in Appendix B of this Part is used to obtain F_B.

3) Recordkeeping and Reporting

A) All ~~affected facilities~~owners or operators affected by this subsection must maintain a copy of the capture efficiency protocol submitted to the Agency and the USEPA on file. All results of the appropriate test methods and capture efficiency protocols must be reported to the Agency within sixty (60) days of the test date. A copy of the results must be kept on file with the source for a period of three (3) years.

B) If any changes are made to capture or control equipment, then the source is required to notify the Agency and the USEPA of these changes and a new test may be required by the Agency or the USEPA.

C) The source must notify the Agency 30 days prior to performing any capture efficiency or control test. At that time, the source must notify the Agency which capture efficiency protocol and control device test methods will be used.

D) Sources utilizing a PTE must demonstrate that this enclosure meets the requirement given in Procedure T (in Appendix B of this Part) for a PTE during any testing of their control device.

E) Sources utilizing a TTE must demonstrate that their TTE meets the requirements given in Procedure T (in Appendix B of this Part) for a TTE during testing of their control device. The source must also provide documentation that the quality assurance criteria for a TTE have been achieved.

d) Control Device Efficiency Testing and Monitoring

1) The control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test

methods specified in subsection (f) of this Section.

2) An~~y~~ owner or operator:

A) ~~t~~That uses an afterburner or carbon adsorber to comply with any Section of ~~this~~ Part 219 shall use Agency and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the afterburner or carbon adsorber is in use except as provided in subsection (d)(3) of this Section. The continuous monitoring equipment must monitor the following parameters:

~~A)~~ i) For each afterburner which does not have a catalyst bed, the ~~C~~combustion chamber temperature of each afterburner.

~~B)~~ ii) For each afterburner which has a catalyst bed, commonly known as a catalytic afterburner, the ~~T~~temperature rise across each catalytic afterburner bed or VOM concentration of exhaust.

~~C)~~ iii) For each carbon adsorber, ~~T~~the VOM concentration of each carbon adsorption bed exhaust or the exhaust of the bed next in sequence to be desorbed.

B) Of an automobile or light-duty truck primer surfacer operation or topcoat operation subject to subsection (d)(2)(A) above, shall keep a separate record of the following data for the control devices, unless alternative provisions are set forth in a permit pursuant to Title V of the Clean Air Act:

i) For thermal afterburners for which combustion chamber temperature is monitored, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature measured during the most recent performance test that demonstrated that the operation was in compliance.

ii) For catalytic afterburners for which temperature rise is monitored, all 3-hour periods of operation in which the average gas temperature before the catalyst bed is more than 28°C (50°F) below the average gas temperature immediately before the catalyst bed measured during the most recent performance test that demonstrated that the operation was in compliance.

iii) For catalytic afterburners and carbon adsorbers for which VOM concentration is monitored, all 3-hour periods of operation during which the average VOM concentration or the reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organic monitoring device during the most recent determination of the recovery efficiency of a carbon adsorber or performance test for a catalytic afterburner, which determination or test that demonstrated that the operation was in compliance.

3) An owner or operator that uses a carbon adsorber to comply with Section 219.401 of this Part may operate the adsorber during periods of monitoring equipment malfunction, provided that:

A) The owner or operator notifies in writing the Agency and USEPA, within 10 days after the conclusion of any 72 hour period during which the adsorber is operated and the associated monitoring equipment is not operational, of such monitoring equipment failure and provides the duration of the malfunction, a description of the repairs made to the equipment, and the total to date of all hours in the calendar year during which the adsorber was operated and the associated monitoring equipment was not operational;

B) During such period of malfunction the adsorber is operated using timed sequences as the basis for periodic regeneration of the adsorber;

C) The period of such adsorber operation does not exceed 360 hours in any calendar year without the approval of the Agency and USEPA; and

D) The total of all hours in the calendar year during which the adsorber was operated and the associated monitoring equipment was not operational shall be reported, in writing, to the Agency and USEPA by January 31st of the following calendar year.

e) Overall Efficiency

1) The overall efficiency of the emission control system shall be determined as the product of the capture system efficiency and the control device efficiency or by the liquid/liquid test protocol as specified in 40 CFR 60.433, incorporated by reference in Section 219.112 of this Part, (and revised by subsection (c)(1)(B) of this Section) for each solvent recovery system. In those cases in which the overall efficiency is being determined for an entire line, the capture efficiency used to calculate the product of the capture and control efficiency is the total capture efficiency over the entire line.

2) For coating lines which are both chosen by the owner or operator to comply with Section 219.207(a), (d), (e), (f), or (g) of this Part by the alternative in Section 219.207(b)(2) of this Part and meet the criteria allowing them to comply with Section 219.207 instead of Section 219.204 of this Part, the overall efficiency of the capture system and control device, as determined by the test methods and procedures specified in subsections (c), (d) and (e)(1) of this Section, shall be no less than the equivalent overall efficiency which shall be calculated by the following equation:

$$E = ([VOM_a - VOM_1]/VOM_a) \times 100$$

where:

E = Equivalent overall efficiency of the capture system and control device as a percentage~~,~~;

VOM_a = Actual VOM content of a coating, or the daily-weighted average VOM content of two or more coatings (if more than one coating is used), as applied to the subject coating line as determined by the applicable test methods and procedures specified in subsection (a)(4)(i) of this Part in units of kg VOM/l (lb VOM/gal) of coating solids as applied~~,~~;

VOM_l = The VOM emission limit specified in ~~Section 219.207(a) or (b)~~ Sections 219.204 or 219.205 of this Part in units of kg VOM/l (lb VOM/gal) of coating solids as applied.

f) Volatile Organic Material Gas Phase Source Test Methods

The methods in 40 CFR Part 60, Appendix A, incorporated by reference in Section 219.112 of this Part delineated below shall be used to determine control device efficiencies.

1) 40 CFR Part 60, Appendix A, Method 18, 25 or 25A, incorporated by reference in Section 219.112 of this Part as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. Except as indicated in subsections (f)(1)(A) and (B) below, the test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Agency and the USEPA determine that process variables dictate shorter sampling times.

A) When the method is to be used to determine the efficiency of a carbon adsorption system with a common exhaust stack for all the individual adsorber vessels, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all the individual adsorber vessels.

B) When the method is to be used to determine the efficiency of a carbon adsorption system with individual exhaust stacks for each adsorber vessel, each adsorber vessel shall be tested individually. The test for each adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

2) 40 CFR Part 60, Appendix A, Method 1 or 1A, incorporated by reference in Section 219.112 <u>of this Part</u>, shall be used for sample and velocity traverses.

3) 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D, incorporated by reference in Section 219.112 <u>of this Part</u>, shall be used for velocity and volumetric flow rates.

4) 40 CFR Part 60, Appendix A, Method 3, incorporated by reference in Section 219.112 <u>of this Part</u>, shall be used for gas analysis.

5) 40 CFR Part 60, Appendix A, Method 4, incorporated by reference in Section 219.112 <u>of this Part</u>, shall be used for stack gas moisture.

6) 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4, incorporated by reference in Section 219.112 <u>of this Part</u>, shall be performed, as applicable, at least twice during each test run.

7) Use of an adaptation to any of the test methods specified in subsections (f)(1), (2), (3), (4), (5) and (6) <u>of this Section</u> may not be used unless approved by the Agency and the USEPA <u>on a case by case basis</u>. An owner or operator must submit sufficient documentation for the Agency and the USEPA to find that the test methods specified in subsections (f)(1), (2), (3), (4), (5) and (6) <u>of this Section</u> will yield inaccurate results and that the proposed adaptation is appropriate.

g) Leak Detection Methods for Volatile Organic Material

Owners or operators required by this Part to carry out a leak detection monitoring program shall comply with the following requirements:

1) Leak Detection Monitoring

A) Monitoring shall comply with 40 CFR 60, Appendix A, Method 21, incorporated by reference in Section 219.112 <u>of this Part</u>.

B) The detection instrument shall meet the performance criteria of Method 21.

C) The instrument shall be calibrated before use on each day of its use by the methods specified in Method 21.

D) Calibration gases shall be:

i) Zero air (less than 10ppm of hydrocarbon in air); and

ii) A mixture of methane or n-hexane and air at a concentration of approximately, but no less than, 10,000 ppm methane or n-hexane.

E) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.

2) When equipment is tested for compliance with no detectable emissions as required, the test shall comply with the following requirements:

A) The requirements of subsections (g)(1)(A) through (g)(1)(E) of this Section above shall apply.

B) The background level shall be determined as set forth in Method 21.

3) Leak detection tests shall be performed consistent with:

A) "APTI Course SI 417 controlling Volatile Organic Compound Emissions from Leaking Process Equipment", EPA-450/2-82-015, incorporated by reference in Section 219.112 of this Part.

B) "Portable Instrument User's Manual for Monitoring VO~~C~~M Sources", EPA-340/ 1-86-015, incorporated by reference in Section 219.112 of this Part.

C) "Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VO~~C~~M and VHAP", EPA-450/3-88-010, incorporated by reference in Section 219.112 of this Part.

D) "Petroleum Refinery Enforcement Manual", EPA-340/1-80-008, incorporated by reference in Section ~~219.122~~219.112 of this Part.

h) Bulk Gasoline Delivery System Test Protocol

1) The method for determining the emissions of gasoline from a vapor recovery system are delineated in 40 CFR 60, Subpart XX, Section 60.503, incorporated by reference in Section 219.112 of this Part.

2) Other tests shall be performed consistent with:

A) "Inspection Manual for Control of Volatile Organic Emissions from Gasoline Marketing Operations: Appendix D", EPA-340/ 1-80-012, incorporated by reference in Section 219.112 of this Part.

B) "Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals: Appendix A", EPA-450/2-77-026, incorporated by reference in Section 219.112 of this Part.

i) Notwithstanding other requirements of this Part, upon request of the Agency where it is necessary to demonstrate compliance, an owner or operator of an emission ~~source~~ unit which is subject to this Part shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in this Part. Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

j) Stage II Gasoline Vapor Recovery Test Methods

The methods for determining the acceptable performance of Stage II Gasoline Vapor Recovery System are delineated in "Technical Guidance-Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities," found at EPA 450/3-91-022b and incorporated by reference in Section 219.112 of this Part. Specifically, the test methods are as follows:

1) Dynamic Backpressure Test is a test procedure used to determine the pressure drop (flow resistance) through balance vapor collection and control systems (including nozzles, vapor hoses, swivels, dispenser piping and underground piping) at prescribed flow rates.

2) Pressure Decay/Leak Test is a test procedure used to quantify the vapor tightness of a vapor collection and control system installed at gasoline dispensing facilities.

3) Liquid Blockage Test is a test procedure used to detect low points in any vapor collection and control system where condensate may accumulate.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.106 Compliance Dates

Compliance with the requirements of all rules is required by May 15, 1992, consistent with the provisions of Section 219.103 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.107 Operation of Afterburners

The operation of any natural gas fired afterburner and capture system used to comply with this Part is not required during the period of November 1 of any year to April 1 of the following year provided that the operation of such devices is not required for purposes of occupational safety or health, or for the control of toxic substances, odor nuisances, or other regulated pollutants.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.109 Vapor Pressure of Volatile Organic Liquids

a) If the VOL consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 219.112 of this Part) or the vapor pressure may be obtained from a ~~published source~~publication such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973); Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984); CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87); and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

b) If the VOL is a mixture, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 219.112 of this Part) or by the following equation:

$$P_{vol} = \sum_{i=1}^{n} P_i \; X_i$$

where:

P_{vol} = Total vapor pressure of the mixture~~,~~;

n = Number of components in the mixture~~,~~;

i = Subscript denoting an individual component~~,~~;

P_i = Vapor pressure of a component determined in accordance with ~~Subpart A of this Part~~subsection (a) of this Section;

X_i = Mole fraction of the component in the total mixture.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.110 Vapor Pressure of Organic Material or Solvent

a) If the organic material or solvent consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 219.112 of this Part) or the vapor pressure may be obtained from a ~~published~~ ~~source~~publication such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973); Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984); CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87); and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

b) If the organic material or solvent is in a mixture made up of both organic material compounds and compounds which are not organic material, the vapor pressure shall be determined by the following equation:

$$P_{om} = \frac{\sum_{i=1}^{n} P_i \; X_i}{\underset{i=1}{\overset{n}{R}} \; X_i}$$

where:

P_{om} = Total vapor pressure of the portion of the mixture which is composed of organic material~~,~~;

n = Number of organic material components in the mixture~~,~~;

i = Subscript denoting an individual component~~,~~;

P_i = Vapor pressure of an organic material component determined in accordance with ~~Subpart A of this Part~~subsection (a) of this Section~~,~~;

X_i = Mole fraction of the organic material component of the total mixture.

c) If the organic material or solvent is in a mixture made up of only organic material compounds, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 219.112 of this Part) or by the above equation.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.111 Vapor Pressure of Volatile Organic Material

a) If the VOM consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 219.112 of this Part) or the vapor pressure may be obtained from a ~~published source~~publication such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973); Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984); CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87); and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

b) If the VOM is in a mixture made up of both VOM compounds and compounds which are not VOM, the vapor pressure shall be determined by the following equation:

$$P_{vom} = \frac{\sum_{i=1}^{n} P_i X_i}{\sum_{i=1}^{n} X_i}$$

where:

P_{vom} = Total vapor pressure of the portion of the mixture which is composed of VOM~~,~~;

n = Number of VOM components in the mixture~~,~~;

i = Subscript denoting an individual component~~,~~;

P_i = Vapor pressure of a VOM component determined in accordance with ~~Subpart A of this Part~~subsection (a) of this Section~~,~~;

X_i = Mole fraction of the VOM component of the total mixture.

c) If the VOM is in a mixture made up of only VOM compounds, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference in Section 219.112 of this Part) or by the above equation.

(Source: Amended at ___ Ill. Reg. ______, effective ______________________)

Section 219.112 Incorporations by Reference

The following materials are incorporated by reference and do not contain any subsequent additions or amendments:

a) American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103:

1) ASTM D2879-86
2) ASTM D323-82
3) ASTM D86-82
4) ASTM D-369-69 (1971)
5) ASTM D-396-69
6) ASTM D2880-71
7) ASTM D-975-68

8) ASTM D3925-81 (1985)
9) ASTM E300-86
10) ASTM D1475-85
11) ASTM D2369-87
12) ASTM D3792-86
13) ASTM D4017-81 (1987)
14) ASTM D4457-85
15) ASTM D2697-86
16) ASTM D3980-87
17) ASTM E180-85
18) ASTM D2372-85
19) ASTM D97-66
20) ASTM E-168-87 (1977)
21) ASTM E-169-87
22) ASTM E-260-91
23) ASTM D2504-83
24) ASTM D2382-83
25) ASTM D323-82 (approved 1982)

b) Standard Industrial Classification Manual, published by Executive Office of the President, Office of Management and Budget, Washington, D.C., 1987.

c) American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks", Second ed., February, 1980.

d) 40 CFR Part 60 (July 1, ~~1990~~1991) and 40 CFR 60, Appendix A, Method 24 (57 FR 30654, July 10, 1992).

e) 40 CFR Part 61 (July 1, ~~1990~~1991).

f) 40 CFR Part 50 (July 1, ~~1989~~1991).

g) 40 CFR Part 51 (July 1, ~~1989~~1991).

h) 40 CFR Part 52 (July 1, ~~1989~~1991).

i) 40 CFR Part 80 (July 1, 1991).

~~i)~~j) "A Guide for Surface Coating Calculation", United States Environmental Protection Agency, Washington, D.C., EPA-340/1-86-016.

~~j)~~k) "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coating", (revised June 1986), United States Environmental Protection Agency, Washington D.C., EPA-450/3-84-019.

~~k)~~l) "A Guide for Graphic Arts Calculations", August 1988, United States Environmental Protection Agency, Washington D.C., EPA-340/1-88-003.

~~l)~~m) "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations", December 1988, United States Environmental Protection Agency, Washington D.C., EPA-450/3-88-018.

~~m)~~n) "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products", United States Environmental Protection Agency, Washington, D.C., EPA-450/2-78-029.

~~n)~~o) "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems", Appendix B, United States Environmental Protection Agency, Washington, D.C., EPA-450/2-78-051.

~~o)~~p) "Control of Volatile Organic Compound emissions from Large Petroleum Dry Cleaners", United States Environmental Protection Agency, Washington, D.C., EPA-450/3-82-009.

q) "APTI Course SI417 Controlling Volatile Organic Compound Emissions from Leaking Process Equipment", United States Environmental Protection Agency, Washington, D.C., EPA-450/2-82-015.

r) "Portable Instrument User's Manual for Monitoring VOM Sources", United States Environmental Protection Agency, Washington, D.C., EPA-340/1-86-015.

s) "Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOM and VHAP", United States Environmental Protection Agency, Washington, D.C., EPA-450/3-88-010.

t) "Petroleum Refinery Enforcement Manual", United States Environmental Protection Agency, Washington, D.C., EPA-340/1-80-008.

u) "Inspection Manual for Control of Volatile Organic Emissions from Gasoline Marketing Operations: Appendix D", United States Environmental Protection Agency, Washington, D.C., EPA-340/1-80-012.

v) "Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals: Appendix A", United States Environmental Protection Agency, Washington, D.C., EPA-450/2-77-026.

w) "Technical Guidance-Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline

Dispensing Facilities", United States Environmental Protection Agency, Washington, D.C., EPA-450/3-91-022b.

x) California Air Resources Board, Compliance Division. Compliance Assistance Program: Gasoline Marketing and Distribution: Gasoline Facilities Phase I & II (October 1988, rev. March 1991) (CARB Manual).

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART B: ORGANIC EMISSIONS FROM STORAGE AND LOADING OPERATIONS

Section 219.121 Storage Containers

No person shall cause or allow the storage of any VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F) or any gaseous organic material in any stationary tank, reservoir or other container of more than 151 cubic meters (40,000 gal) capacity unless such tank, reservoir or other container:

a) Is a pressure tank capable of withstanding the vapor pressure of such liquid or the pressure of the gas, so as to prevent vapor or gas loss to the atmosphere at all times; or,

b) Is designed and equipped with one of the following vapor loss control devices:

1) A floating roof which rests on the surface of the VOL and is equipped with a closure seal or seals between the roof edge and the tank wall. Such floating roof shall not be permitted if the VOL has a vapor pressure of 86.19 kPa (12.5 psia) or greater at 294.3°K (70°F). No person shall cause or allow the emission of air contaminants into the atmosphere from any gauging or sampling devices attached to such tanks, except during sampling or maintenance operations.

2) A vapor recovery system consisting of:

A) A vapor gathering system capable of collecting 85% or more of the uncontrolled VOM that would be otherwise emitted to the atmosphere; and,

B) A vapor disposal system capable of processing such VOM so as to prevent its emission to the atmosphere. No person shall cause or allow the emission of air contaminants into the atmosphere from any gauging or sampling devices attached to such tank, reservoir or other container except during sampling.

3) Other equipment or means of equal efficiency approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with Section 219.108 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 219.122 Loading Operations

a) No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere during the loading of any organic material from the aggregate loading pipes of any loading ~~facility~~area having through-put of greater than 151 cubic meters per day (40,000 gal/day) into any railroad tank car, tank truck or trailer unless such loading ~~facility~~area is equipped with submerged loading pipes~~, submerged fill~~ or a device that is equally effective in controlling emissions and is approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with Section 219.108 of this Part.

b) No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 1 (250 gal), unless such tank is equipped with a permanent submerged loading pipe~~, submerged fill~~ or an equivalent device approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with Section 219.108 of this Part, or unless such tank is a pressure tank as described in Section 219.121(a) of this Part or is fitted with a recovery system as described in Section 219.121(b)(2) of this Part.

c) Exception: If no odor nuisance exists the limitations of this Section shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 219.123 Petroleum Liquid Storage Tanks

a) The requirements of subsection (b) of this Section shall not apply to any stationary storage tank:

1) Equipped before January 1, 1979 with one of the vapor loss control devices specified in Section 219.121(b) of this Part, except Section 219.121(b)(1) of this Part;

2) With a capacity of less than 151.42 cubic meters (40,000 gal);

3) With a capacity of less than 1,600 cubic meters (422,400 gal) and used to store produced crude oil and condensate prior to custody transfer;

4) With a capacity of less than 1,430 cubic meters (378,000 gal) and used to store produced oil or condensate in crude oil gathering;

5) Subject to new source performance standards for storage vessels of petroleum liquid, ~~35 Ill. Adm. Code 230~~ 40 CFR 60, as regulations promulgated by the U.S. Environmental Protection Agency under Section 111 of the Clean Air Act (42 USC 7411), as amended. THE PROVISIONS OF SECTION 111 OF THE CLEAN AIR ACT ... ARE APPLICABLE IN THIS STATE AND ARE ENFORCEABLE UNDER THE ENVIRONMENTAL PROTECTION ACT (Ill. Rev. Stat. 1991, ch. 111½, Par. 1009.1(b)) [415 ILCS 5/9.1(b)];

6) In which volatile petroleum liquid is not stored; or

7) Which is a pressure tank as described in Section 219.121(a) of this Part.

b) Subject to subsection (a) of this Section no owner or operator of a stationary storage tank shall cause or allow the storage of any VOL in the tank unless:

1) The tank is equipped with one of the vapor loss control devices specified in Section 219.121(b) of this Part;

2) There are no visible holes, tears or other defects in the seal or any seal fabric or material of any floating roof;

3) All openings of any floating roof deck, except stub drains, are equipped with covers, lids or seals such that:

A) The cover, lid or seal is in the closed position at all times except when petroleum liquid is transferred to or from the tank;

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

C) Rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting;

4) Routine inspections of floating roof seals are conducted through roof hatches once every six months;

5) A complete inspection of the cover and seal of any floating roof tank is made whenever the tank is emptied for reasons other than the transfer of petroleum liquid during the normal operation of the tank, or whenever repairs are made as a result of any semi-annual inspection or incidence of roof damage or defect; and

6) A record of the results of each inspection conducted under subsection (b)(4) or (b)(5) of this Section is maintained.

~~c) Owners and operators of petroleum liquid storage tanks were required to have compliance schedules as summarized in Appendix C to 35 Ill. Adm. Code 215~~.

(Source: Amended at ______, Ill. Reg. _____, effective ___________ _________)

Section 219.124 External Floating Roofs

a) In addition to meeting the requirements of Section 219.123(b) of this Part, no owner or operator of a stationary storage tank equipped with an external floating roof shall cause or allow the storage of any volatile petroleum liquid in the tank unless:

1) The tank has been fitted:

A) ~~fitted w~~With a continuous secondary seal extending from the floating roof to the tank wall (rim mounted secondary seal), or

B) With any other ~~device which controls VOM emissions with an effectiveness equal to or greater than a rim mounted secondary seal;~~ equipment or means of equal efficiency approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with Section 219.108 of this Part.

2) Each seal closure device meets the following requirements:

A) The seal is intact and uniformly in place around the circumference of the floating roof between the floating roof and tank wall; and

B) The accumulated area of gaps exceeding 0.32 centimeter (1/8 inch) in width between the secondary seal and the tank wall shall not exceed 21.2 square centimeters per meter of tank diameter (1.0 square inch~~es~~ per foot of tank diameter). Compliance with this requirement shall be determined by:

i) Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 0.32 cm (0.125 in.) uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and the tank wall; and

ii) Summing the area of the individual gaps.

3) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers across at least 90 percent of the area of the opening;

4) Openings are equipped with projections into the tank which remain below the liquid surface at all times;

5) Inspections are conducted prior to May 1 of each year to insure compliance with subsection (a) of this Section;

6) The secondary seal gap is measured prior to May 1 of each year~~;~~ and within 30 days of a written request to demonstrate compliance with subsection (2)(B) of this Section;

7) Records of the types of volatile petroleum liquid stored, the maximum true vapor pressure of the liquid as stored, the results of the inspections and the results of the secondary seal gap measurements are maintained and available to the Agency, upon verbal or written request, at any

reasonable time for a minimum of two years after the date on which the record was made.

b) Subsection (a) above does not apply to any stationary storage tank equipped with an external floating roof:

1) Exempted under Section 219.123(a)(2) through 219.123(a)(6) of this Part;

2) Of welded construction equipped with a metallic type shoe seal having a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal);

3) Of welded construction equipped with a metallic type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled-type seal, or other closure device of equivalent control efficiency approved by the Agency in which a petroleum liquid with a true vapor pressure less than 27.6 kPa (4.0 psia) at 294.3°K (70°F) is stored; or

4) Used to store crude oil with a pour point of 50°F or higher as determined by ASTM Standard D97-66 incorporated by reference in Section 219.112 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective __________________________)

Section 219.125 Compliance Dates (Repealed)

~~Every owner or operator of an emission source subject to 35 Ill. Adm. Code 215, Subpart B, as of December 31, 1987 shall have complied with its standards and limitations by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective __________________________)

Section 219.126 Compliance Plan (Repealed)

~~a) The owner or operator of an emission source previously subject to Section 215.125 shall have submitted to the Agency a compliance plan as required by 35 Ill. Adm. Code 201.241, including a project completion schedule where applicable, no later than April 21, 1983.~~

~~b) Unless the submitted compliance plan or schedule was disapproved by the Agency, the owner or operator of a facility or emission source subject to the rules specified in subsection (a) may operate the emission source according to the plan and schedule as submitted.~~

~~c) The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201.241 including specific interim dates as required in 35 Ill. Adm. Code 201.242.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART C: ORGANIC EMISSIONS FROM MISCELLANEOUS EQUIPMENT

Section 219.141 Separation Operations

a) No person shall use any single or multiple compartment effluent water separator which receives effluent water containing 757 l/day (200 gal/day) or more of organic material from any equipment processing, refining, treating, storing or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. Exception: If no odor nuisance exists the limitations of this subsection shall not apply if the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3°K (70°F).

b) Subsection (a) of this Section shall not apply to water and crude oil separation in the production of Illinois crude oil, if the vapor pressure of such crude oil is less than 34.5 kPa (5 psia).

(Source: Amended at ______, Ill. Reg. _____, effective ____________ __________)

Section 219.143 Vapor Blowdown

No person shall cause or allow the emission of organic material into the atmosphere from any vapor blowdown system or any safety relief valve, except such safety relief valves not capable of causing an excessive release, unless such emission is controlled:

a) To 10 ppm equivalent methane (molecular weight 16.0) or less; or,

b) By combustion in a smokeless flare; or,

c) By other air pollution control equipment approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with Section 219.108 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.144 Safety Relief Valves

Section 219.143 of this Part shall not apply to any set of unregulated safety relief valves capable of causing excessive releases, provided the owner or operator thereof, by October 1, 1972, supplied the Agency with the following:

a) A historical record of each such set (or, if such records were unavailable, of similar sets which, by virtue of operation under similar circumstances, may reasonably have been presumed to have the same or greater frequency of excessive releases) for a three-year period immediately preceding October 1, 1972, indicating:

   1) Dates on which excessive releases occurred from each such set; and~~,~~

   2) Duration in minutes of each such excessive release; and~~,~~

   3) Quantities (in pounds) of mercaptans and/or hydrogen sulfide emitted into the atmosphere during each such excessive release.

b) Proof, using such three-year historical records, that no excessive release is likely to occur from any such set either alone or in combination with such excessive releases from other sets owned or operated by the same person and located within a ten-mile radius from the center point of any such set, more frequently than 3 times in any 12 month period;

c) Accurate maintenance records pursuant to the requirements of subsection (a) of this Section; and,

d) Proof, at three-year intervals, using such three-year historical records, that such set conforms to the requirements of subsection (c) of this Section.

(Source: Amended at ___ Ill. Reg. ______, effective ________________ __________)

SUBPART E: SOLVENT CLEANING

Section 219.181 Solvent Cleaning in General

The requirements of this Subpart shall apply to all cold cleaning, open top vapor degreasing, and conveyorized degreasing operations which use volatile organic materials.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.182 Cold Cleaning

a) Operating Procedures: No person shall operate a cold cleaning degreaser unless:

1) Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;

2) The cover of the degreaser is closed when parts are not being handled; and

3) Parts are drained until dripping ceases.

b) Equipment Requirements: No person shall operate a cold cleaning degreaser unless:

1) The degreaser is equipped with a cover which is closed whenever parts are not being handled in the cleaner. The cover shall be designed to be easily operated with one hand or with the mechanical assistance of springs, counter-weights or a powered system if:

A) The solvent vapor pressure is greater than 2 kPa (15 mmHg or 0.3 psi) measured at 38°C (100°F);

B) The solvent is agitated; or

C) The solvent is heated above ambient room temperature.

2) The degreaser is equipped with a ~~facility~~device for draining cleaned parts. The drainage ~~facility~~device shall be constructed so that parts are enclosed under the cover while draining unless:

A) The solvent vapor pressure is less than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F); or

B) An internal drainage ~~facility~~device cannot be fitted into the cleaning system, in which case the drainage ~~facility~~device may be external.

3) The degreaser is equipped with one of the following control devices if the vapor pressure of the solvent is greater than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F) or if the solvent is heated above 50°C (120°F) or its boiling point:

A) A freeboard height of 7/10 of the inside width of the tank or 91 cm (36 in), whichever is less; or

B) Any other equipment or system of equivalent emission control as approved by the Agency and further processed consistent with Section 219.108 of this Part. Such a system may include a water cover, refrigerated chiller or carbon adsorber.

4) A permanent conspicuous label summarizing the operating procedure is affixed to the degreaser; and

5) If a solvent spray is used, the degreaser is equipped with a solid fluid stream spray, rather than a fine, atomized or shower spray.

(Source: Amended at ______, Ill. Reg. _______, effective _________ __________)

Section 219.183 Open Top Vapor Degreasing

a) Operating Requirements: No person shall operate an open top vapor degreaser unless:

1) The cover of the degreaser is closed when workloads are not being processed through the degreaser;

2) Solvent carryout emissions are minimized by:

A) Racking parts to allow complete drainage;

B) Moving parts in and out of the degreaser at less than 3.3 m/min (11 ft/min);

C) Holding the parts in the vapor zone until condensation ceases;

D) Tipping out any pools of solvent on the cleaned parts before removal from the vapor zone; and

E) Allowing parts to dry within the degreaser until visually dry.

3) Porous or absorbent materials, such as cloth, leather, wood or rope are not degreased;

4) Less than half of the degreaser's open top area is occupied with a workload;

5) The degreaser is not loaded to the point where the vapor level would drop more than 10 cm (4 in) when the workload is removed from the vapor zone;

6) Spraying is done below the vapor level only;

7) Solvent leaks are repaired immediately;

8) Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;

9) Water is not visually detectable in solvent exiting from the water separator; and

10) Exhaust ventilation exceeding 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of degreaser open area is not used, unless necessary to meet the requirements of the Occupational Safety and Health Act (29 U.S.C. Section 651 et seq.).

b) Equipment Requirements: No person shall operate an open top vapor degreaser unless:

1) The degreaser is equipped with a cover designed to open and close easily without disturbing the vapor zone;

2) The degreaser is equipped with the following switches:

A) ~~A device~~One which shuts off the sump heat source if the amount of condenser coolant is not sufficient to maintain the designed vapor level; and

B) ~~A device~~One which shuts off the spray pump if the vapor level drops more than 10 cm (4 in) below the bottom condenser coil; and

C) ~~A device~~One which shuts off the sump heat ~~source~~ when the vapor level exceeds the design level.

3) A permanent conspicuous label summarizing the operating procedure is affixed to the degreaser;

4) The degreaser is equipped with one of the following devices:

A) A freeboard height of 3/4 of the inside width of the degreaser tank or 91 cm (36 in), whichever is less; and if the degreaser opening is greater than 1 square meter (10.8 ft^2), a powered or mechanically assisted cover; or

B) Any other equipment or system of equivalent emission control as approved by the Agency and further processed consistent with Section 219.108 of this Part. Such equipment or system may inçlude a refrigerated chiller, an enclosed design or a carbon adsorption system.

(Source: Amended at _____, Ill. Reg. ______, effective __________ _________)

Section 219.184 Conveyorized Degreasing

a) Operating Requirements: No person shall operate a conveyorized degreaser unless:

1) Exhaust ventilation exceeding 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of area of loading and unloading opening is not used, unless necessary to meet the requirements of the Occupational Safety and Health Act (29 U.S.C. Section 651 et seq.);

2) Solvent carryout emissions are minimized by:

A) Racking parts for best drainage; and

B) Maintaining the vertical conveyor speed at less than 3.3 m/min (11 ft/min);

3) Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;

4) Solvent leaks are repaired immediately;

5) Water is not visually detectable in solvent exiting from the water separator; and

6) Downtime covers are placed over entrances and exits of conveyorized degreasers immediately after the conveyors and exhausts are shut down and not removed until just before start-up.

b) Equipment Requirements: No person shall operate a conveyorized degreaser unless:

1) The degreaser is equipped with a drying tunnel, rotating (tumbling) basket or other equipment sufficient to prevent cleaned parts from carrying out solvent liquid or vapor;

2) The degreaser is equipped with the following switches:

A) ~~A device~~One which shuts off the sump heat source if the amount of condenser coolant is not sufficient to maintain the designed vapor level;

B) ~~A device~~One which shuts off the spray pump or the conveyor if the vapor level drops more than 10 cm (4 in) below the bottom condenser coil; and

C) ~~A device~~One which shuts off the sump heat ~~source~~ when the vapor level exceeds the design level;

3) The degreaser is equipped with openings for entrances and exits that silhouette workloads so that the average clearance between the parts and the edge of the degreaser opening is less than 10 cm (4 in) or less than 10 percent of the width of the opening;

4) The degreaser is equipped with downtime covers for closing off entrances and exits when the degreaser is shut down; and

5) The degreaser is equipped with one of the following control devices, if the air/vapor interface is larger than 2.0 square meters (21.6 ft^2):

A) A carbon adsorption system with ventilation greater than or equal to 15 cubic meters per minute per square meter (50 cubic feet per minute per square foot) of air/vapor area when downtime covers are open, and exhausting less than 25 ppm of solvent by volume averaged over a complete adsorption cycle; or

B) Any other equipment or system of equivalent emission control as approved by the Agency, and further processed consistent with Section 219.108 <u>of this Part</u>. Such equipment or system may include a refrigerated chiller.

(Source: Amended at _____, Ill. Reg. ______, effective ___________ _________)

Section 219.185 Compliance Schedule <u>(Repealed)</u>

~~Every owner or operator of an emission source which was previously exempt from the requirements of Subpart E of 35 Ill. Adm. Code 215 (Sections 215.182-215.184) because it satisfied the criteria in either 35 Ill. Adm. Code 215.181(a) or 35 Ill. Adm. Code 215.181(b), shall comply with the requirements of this Subpart on and after a date consistent with Section 219.106. A source which did not satisfy the criteria in either 35 Ill. Adm. Code 215.181(a) or 35 Ill. Adm. Code 215.181(b) shall comply with the requirements of this Subpart upon adoption.~~

(Source: Repealed at ___ Ill. Reg. ______, effective _____________ __________)

Section 219.186 Test Methods

The following test methods shall be used to demonstrate compliance with this Subpart:

a) Vapor pressures shall be determined by using the procedure specified in Section 219.110 <u>of this Part</u>.

b) Exhaust ventilation rates shall be determined by using the procedures specified in Section 219.105(f)(3) <u>of this Part</u>.

c) The performance of control devices shall be determined by using the procedures specified in Section 219.105(f) <u>of this Part</u>.

(Source: Amended at _____, Ill. Reg. ______, effective ___________ _________)

SUBPART F: COATING OPERATIONS

Section 219.204 Emission Limitations~~ for Manufacturing Plants~~

Except as provided in Sections 219.205, 219.207 and 219.208 of this Part, no owner or operator of a coating line shall apply at any time any coating in which the VOM content exceeds the following emission limitations for the specified coating. The following emission limitations are expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each coating applicator, except where noted. Compounds which are specifically exempted from the definition of VOM should be treated as water for the purpose of calculating the "less water" part of the coating composition. Compliance with this Subpart must be demonstrated through the applicable coating analysis test methods and procedures specified in Section 219.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 219.211(c) of this Part. (Note: The equation presented in Section 219.206 of this Part shall be used to calculate emission limitations for determining compliance by add-on controls, credits for transfer efficiency, emissions trades and cross-line averaging.) The emission limitations are as follows:

a) Automobile or Light-Duty Truck Coating

		kg/l	lb/gal
1)	Prime coat	0.14	(1.2)
2)	Primer surfacer coat	~~0.34~~1.81	(~~2.8~~15.1)

(Note: The primer surfacer coat limitation is ~~based upon a transfer efficiency of 30 percent. The use of transfer efficiency credits can be allowed only if approved by the Agency and approved by the USEPA as a SIP revision~~in units of kg (lbs) of VOM per l (gal) of coating solids deposited. Compliance with the limitation shall be based on the daily-weighted average from an entire primer surfacer operation. Compliance shall be demonstrated in accordance with the topcoat protocol referenced in Section 219.105(b) and the recordkeeping and reporting requirements specified in Section 219.211(f). Testing to demonstrate compliance shall be performed in accordance with the topcoat protocol and a detailed testing proposal approved by the Agency and USEPA specifying the method of demonstrating compliance with the protocol. Section 219.205 does not apply to the primer surfacer limitation.)

		kg/l	lb/gal
3)	Topcoat	1.81	(15.1)

(Note: The topcoat limitation is in units of kg (lbs) of VOM per l (gal) of coating solids deposited. Compliance with the limitation shall be based on the daily-weighted average ~~VOM content~~ from ~~the~~an entire topcoat operation ~~(all topcoat spray booths, flash-off areas and bake ovens)~~. Compliance shall be demonstrated in accordance with the topcoat protocol ~~for automobiles and light-duty trucks~~ referenced in Section 219.105(b) of this Part and the recordkeeping and reporting requirements specified in Section 219.211(f). Testing to demonstrate compliance shall be performed in accordance with the topcoat protocol and ~~Section 219.205 does not apply to the topcoat limitation.) At least 180 days prior to the initial compliance date, the owner or operator of a coating line subject to the topcoat limitation shall have submitted to the USEPA~~ a detailed testing proposal approved by the Agency and USEPA specifying the method of demonstrating compliance with the protocol. ~~The proposal shall have included, at a minimum, a comprehensive plan (including a rationale) for determining the transfer efficiency at each booth through the use of in-plant, or pilot testing; the selection of coatings to be tested (for the purpose of determining transfer efficiency) including the rationale for coating groupings; and the method for determining the analytic VOM content of as applied coatings and the formulation solvent content of as applied coatings. Upon approval of the protocol by the USEPA, the source may proceed with the compliance demonstration.~~ Section 219.205 of this Part does not apply to the topcoat limitation.)

		kg/l	lb/gal
4)	Final repair coat	0.58	(4.8)

b) Can Coating

		kg/l	lb/gal
1)	Sheet basecoat and overvarnish	0.34	(2.8)
2)	Exterior basecoat and overvarnish	0.34	(2.8)
3)	Interior body spray coat	0.51	(4.2)
4)	Exterior end coat	0.51	(4.2)

	5) Side seam spray coat	0.66	(5.5)
	6) End sealing compound coat	0.44	(3.7)
		kg/l	lb/gal
c)	Paper Coating	0.35	(2.9)

(Note: The paper coating limitation shall not apply to any owner or operator of any paper coating line on which printing is performed if the paper coating line complies with the emissions limitations in Subpart H: Printing and Publishing, Sections 219.401 ~~through 219.404.)~~of this Part.)

		kg/l	lb/gal
d)	Coil Coating	0.31	(2.6)
e)	Fabric Coating	0.35	(2.9)
f)	Vinyl Coating	0.45	(3.8)
g)	Metal Furniture Coating	0.36	(3.0)
h)	Large Appliance Coating	0.34	(2.8)

(Note: The limitation shall not apply to the use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided that the volume of coating does not exceed 0.95 l (1 quart) in any one rolling eight-hour period.)

		kg/l	lb/gal
i)	Magnet Wire Coating	0.20	(1.7)
j)	Miscellaneous Metal Parts and Products Coating		
		kg/l	lb/gal
	1) Clear coating	0.52	(4.3)
	2) Air-dried coating	0.42	(3.5)
	3) Extreme performance coating	0.42	(3.5)
	4) Steel pail and drum interior coating	0.52	(4.3)
	~~4~~5) All other coatings	0.36	(3.0)
k)	Heavy Off-Highway Vehicle Products Coating		
		kg/l	lb/gal
	1) Extreme performance prime coat	0.42	(3.5)
	2) Extreme performance top-coat		

	(air dried)	0.42	(3.5)
3)	Final repair coat (air dried)	0.42	(3.5)

4) All other coatings are subject to the emission limitations for miscellaneous metal parts and products coatings in subsection (j) above.

l) Wood Furniture Coating

		kg/l	lb/gal
1)	Clear topcoat	0.67	(5.6)
2)	Opaque stain	0.56	(4.7)
3)	Pigmented coat	0.60	(5.0)
4)	Repair coat	0.67	(5.6)
5)	Sealer	0.67	(5.6)
6)	Semi-transparent stain	0.79	(6.6)
7)	Wash coat	0.73	(6.1)

(Note: An owner or operator of a wood furniture coating operation subject to this Section shall apply all coatings, with the exception of no more than 37.8 l (10 gal) of coating per day used for touch-up and repair operations, using one or more of the following application systems: airless spray application system, air-assisted airless spray application system, electrostatic spray application system, electrostatic bell or disc-spray application system, heated airless spray application system, roller coating, brush or wipe coating application system, ~~or~~ dip coating application system <u>or high volume low pressure (HVLP) application system</u>.)

(Source: Amended at ___ Ill. Reg. _____, effective ________________ _________)

Section 219.205 Daily-Weighted Average Limitations

No owner or operator of a coating line subject to the limitations of Section 219.204 <u>of this Part</u> and complying by means of this Section shall operate the subject coating line unless the owner or operator has demonstrated compliance with subsection<u>s</u> (a), (b), (c), (d), (e) or (f) <u>of this Section</u> (depending upon the ~~source~~ category<u> of coating</u>) through the applicable coating analysis test methods and procedures specified in Section

219.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 219.211(d) of this Part:

a) No owner or operator of a coating line subject to only one of the limitations from among Section 219.204(a)(1), ~~(a)(2),~~ (a)(4), (c), (d), (e), (f), (g), (h), or (i) of this Part shall apply coatings on any such coating line, during any day, whose daily-weighted average VOM content exceeds the emission limitation to which the coatings are subject.

b) No owner or operator of a miscellaneous metal parts and products coating line subject to the limitations of Section 219.204(j) of this Part shall apply coatings to miscellaneous metal parts or products on the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section below are met.

1) For each coating line which applies multiple coatings, all of which are subject to the same numerical emission limitation within Section 219.204(j) above, during the same day (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), the daily-weighted average VOM content shall not exceed the coating VOM content limit corresponding to the category of coating used, or

2) For each coating line which applies coatings subject to more than one numerical emission limitation ~~from more than one of the four coating categories~~ in Section 219.204(j) ~~above~~, during the same day, the owner or operator shall have a site-specific proposal approved by the Agency and approved by the USEPA as a SIP revision. To receive approval, the requirements of USEPA's Emissions Trading Policy Statement (and related policy) 51 Fed. Reg. 43814 (December 4, 1986), must be satisfied.

c) No owner or operator of a can coating ~~facility~~line subject to the limitations of Section ~~215~~219.204(b) of this Part shall operate the subject coating ~~facility~~line using a coating with a VOM content in excess of the limitations specified in Section ~~215~~219.204(b) of this Part unless all of the following requirements are met:

1) An alternative daily emission limitation for the can coating operation, i.e. for all the can coating lines at the source, shall be determined

according to subsection (c)(2) below. Actual daily emissions shall never exceed the alternative daily emission limitation and shall be calculated by use of the following equation.

$$E_d = \sum_{i=1}^{n} V_i C_i$$

where:

E_d = Actual VOM emissions for the day in units of kg/day (lbs/day)~~,~~;

i = Subscript denoting a specific coating applied~~,~~;

n = Total number of coatings applied in the can coating operation i.e. all can coating lines at the source;

V_i = Volume of each coating applied for the day in units of l/day (gal/day) of coating (minus water and any compounds which are specifically exempted from the definition of VOM);

C_i = The VOM content of each coating as applied in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM).

2) The alternative daily emission limitation (A_d) shall be determined for the can coating operation, i.e. for all the can coating lines at the source, on a daily basis as follows:

$$A_d = \sum_{i=1}^{n} V_i L_i \frac{(D_i - C_i)}{(D_i - L_i)}$$

where:

A_d = The VOM emissions allowed for the day in units of kg/day (lbs/day)~~,~~;

i = Subscript denoting a specific coating applied~~,~~;

n = Total number of surface coatings applied in the can coating operation~~,~~;

C_i = The VOM content of each surface coating as applied in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM)~~,~~;

D_i = The density of VOM in each coating applied. For the purposes of calculating A_d, the density is 0.882 kg VOM/l VOM (7.36 lbs VOM/gal VOM)~~,~~;

V_i = Volume of each surface coating applied for the day in units of l (gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM)~~,~~;

L_i = The VOM emission limitation for each surface coating applied as specified in Section 219.204(b) of this Part in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM).

d) No owner or operator of a heavy off-highway vehicle products coating line subject to the limitations of Section 219.204(k) of this Part shall apply coatings to heavy off-highway vehicle products on the subject coating line unless the requirements of subsection (d)(1) or (d)(2) below are met.

1) For each coating line which applies multiple coatings, all of which are subject to the same numerical emission limitation within Section 219.204(k) above, during the same day (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), the daily-weighted average VOM content shall not exceed the coating VOM content limit corresponding to the category of coating used, or

2) For each coating line which applies coatings subject to more than one numerical emission limitation in Section 219.204(k) above, during the same day, the owner or operator shall have a site specific proposal approved by the Agency and approved by the USEPA as a SIP revision. To receive approval, the requirements of USEPA's Emissions Trading Policy Statement (and related policy) 51 Fed. Reg. 43814 (December 4, 1986) must be satisfied.

e) No owner or operator of a wood furniture coating line subject to the limitations of Section 219.204(l) of this Part shall apply coatings to wood furniture on the subject coating line unless the requirements of subsection (e)(1) or subsection (e)(2) below, in addition to the requirements specified in the note to Section 219.204(l) of this Part, are met.

1) For each coating line which applies multiple coatings, all of which are subject to the same numerical emission limitation within Section 219.204(l) above, during the same day (e.g., all coatings used on the line are subject to 0.67 kg/l [5.6 lbs/gal]), the daily-weighted average VOM content shall not exceed the coating VOM content limit corresponding to the category of coating used, or

2) For each coating line which applies coatings subject to more than one numerical emission limitation in Section 219.204(l) above, during the same day, the owner or operator shall have a site specific proposal approved by the Agency and approved by the USEPA as a SIP revision. To receive approval, the requirements of USEPA's Emissions Trading Policy Statement (and related policy) 51 Fed. Reg. 43814 (December 4, 1986), must be satisfied.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ _________)

Section 219.206 Solids Basis Calculation

Limitations in terms of kg (lbs) of VOM emissions per l (gal) of solids as applied at each coating applicator shall be determined by the following equation:

$$S = \frac{C}{1 - (C/D)}$$

where:

S = The limitation on VOM emissions in terms of kg VOM/l (lbs VOM/gal) of solids~~,~~;

C = The limitation on VOM emissions in terms of kg/l (lbs/gal) of coating (minus water and any compounds which are specifically excluded from the definition of VOM) specified in Section 219.204~~,~~;

D = The density of VOM in the coating. For the purposes of calculating S, the density is 0.882 kg VOM/l VOM (7.36 lbs VOM/gal VOM).

(Source: Amended at _____, Ill. Reg. ______, effective __________ _________)

Section 219.207 Alternative Emission Limitations

a) Any owner or operator of a coating line subject to Section 219.204 of this Part may comply with this Section, rather than with Section 219.204 of this Part, if a capture system and control device are operated at all times the coating line is in operation and the owner or operator demonstrates compliance with subsection~~s~~ (c), (d), (e), (f), (g) or (h) of this Section (depending upon the source category) through the applicable coating analysis and capture system and control device efficiency test methods and procedures specified in Section 219.105 of this Part and the recordkeeping and reporting requirements specified in Section 219.211(e) of this Part; and the control device is equipped with the applicable monitoring equipment specified in Section 219.105(d) of this Part and the monitoring equipment is installed, calibrated, operated and maintained according to vendor specifications at all times the control device is in use. A capture system and control device, which does not demonstrate compliance with subsection (c), (d), (e), (f), (g) or (h) of this Section may be used as an alternative to compliance with Section 219.204 of this Part only if the alternative is approved by the Agency and approved by the USEPA as a SIP revision.

b) Alternative Add-On Control Methodologies

1) The coating line is equipped with a capture system and control device that provides 81 percent reduction in the overall emissions of VOM from the coating line and the control device has a 90 percent efficiency, or

2) The system used to control VOM from the coating line is demonstrated to have an overall efficiency sufficient to limit VOM emissions to no more than what is allowed under Section 219.204 of this Part. Use of any control system other than an afterburner, carbon adsorption, condensation, or absorption scrubber system can be allowed only if approved by the Agency and approved by the USEPA as a SIP revision. The use of transfer efficiency credits can be allowed only if approved by the Agency and approved by the USEPA as a SIP revision. Baseline transfer efficiencies and transfer efficiency test methods must be approved by the Agency and the USEPA.

Such overall efficiency is to be determined as follows:

A) ~~o~~Obtain the emission limitation from the appropriate subsection in Section 219.204 of this Part,

B) ~~c~~Calculate "S" according to the equation in Section 219.206 of this Part,

C) ~~c~~Calculate the overall efficiency required according to Section 219.105(e) of this Part. For the purposes of calculating this value, according to the equation in Section 219.105(e)(2) of this Part, VOM_1 is equal to the value of "S" as determined above in subsection (b)(2)(B) of this Section.

c) No owner or operator of a coating line subject to only one of the emission limitations from among Section 219.204(a)(1), ~~(a)(2),~~ (a)(4), (c), (d), (e), (f), (g), (h) or (i) of this Part and equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) above are met. No owner or operator of a coating line subject to Section 219.204 (a)(2) or (a)(3) of this Part and equipped with a capture system and control device shall operate the coating line unless the owner or operator demonstrates compliance with ~~the topcoat~~ such limitation in accordance with the topcoat protocol ~~for automobile or light-duty trucks~~ referenced in Section 219.105(b) of this Part.

d) No owner or operator of a miscellaneous metal parts and products coating line which applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 219.204(j) of this Part (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), and which is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) above are met.

e) No owner or operator of a heavy off-highway vehicle products coating line which applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 219.204(k) (e.g., all coatings used on the line are subject to 0.42 kg/l [3.5 lbs/gal]), and which is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) above are met.

f) No owner or operator of a wood furniture coating line which applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 219.204(l) of this Part (e.g., all coatings used on the line are subject to 0.67 kg/l [5.6 lbs/gal]), and which is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met. If compliance is achieved by meeting the requirements in subsection (b)(2) of this Section, then the provisions in the note to Section 219.204(l) of this Part must also be met.

g) No owner or operator of a can coating ~~facility~~line and equipped with a capture system and control device shall operate the subject coating ~~facility~~line unless the requirements in subsection (h)(1) or (h)(2) below are met.

1) An alternative daily emission limitation for the can coating operation, i.e. for all the can coating lines at the source, shall be determined according to Section 219.205(c)(2) of this Part. Actual daily emissions shall never exceed the alternative daily emission limitation and shall be calculated by use of the following equation:

$$E_d = \sum_{i=1}^{n} V_i C_i (1-F_i)$$

where:

E_d = Actual VOM emissions for the day in units of kg/day (lbs/day)~~,~~;

i = Subscript denoting the specific coating applied~~,~~;

n = Total number of surface coatings as applied in the can coating operation~~,~~;

V_i = Volume of each coating as applied for the day in units of l/day (gal/day) of coating (minus water and any compounds which are specifically exempted from the definition of VOM)~~,~~;

C_i = The VOM content of each coating as applied in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM);

F_i = Fraction, by weight, of VOM emissions from the surface coating, reduced or prevented from being emitted to the ambient air. This is the overall efficiency of the capture system and control device.

2) The coating line is equipped with a capture system and control device that provide 75 percent reduction in the overall emissions of VOM from the coating line and the control device has a 90 percent efficiency.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.208 Exemptions From Emission Limitations

a) Exemptions for all ~~source~~coating categories except wood furniture coating. The limitations of this Subpart shall not apply to coating lines within a ~~facility~~source, that otherwise would be subject to the same subsection of Section 219.204 (because they belong to the same ~~source~~coating category, e.g. can coating), provided that combined actual emissions of VOM from all lines at the ~~facility~~source subject to that subsection never exceed 6.8 kg/day (15 lbs/day) before the application of capture systems and control devices. (For example, can coating lines within a ~~plant~~source would not be subject to the limitations of Section 219.204(b) of this Part if the combined actual emissions of VOM from the can coating lines never exceed 6.8 kg/day (15 lbs/day) before the application of capture systems and control devices.) Volatile organic material emissions from heavy off-highway vehicle products coating lines must be combined with VOM emissions from miscellaneous metal parts and products coating lines to determine applicability. Any owner or operator of a coating ~~facility~~source shall comply with the applicable coating analysis test methods and procedures specified in Section 219.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 219.211(a) of this Part if total VOM emissions from the subject coating lines are always less than or equal to 6.8 kg/day (15 lbs/day) before the application of capture systems and control devices and, therefore, are not subject to the limitations of Section 219.204 of this Part. Once a category of coating lines at a ~~facility~~source is subject to the limitations in Section 219.204 of this Part, the coating lines are always subject to the limitations in Section 219.204 of this Part.

b) Applicability for wood furniture coating

1) The limitations of this Subpart shall apply to a ~~plant's~~source's wood furniture coating lines if the ~~plant~~source contains process emission ~~sources~~units, not regulated by Subparts B, E, F (excluding Section 219.204(l) of this Part), H (excluding Section 219.405 of this Part), Q, R, S, T (excluding Section 219.486 of this Part), V, X, Y, ~~or~~ Z or BB of this Part, which as a group both:

A) ~~h~~Have maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

B) ~~a~~Are not limited to less than 91 Mg (100 tons) of VOM per calendar year if no air pollution control equipment were used, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or SIP revision.

2) If a ~~plant~~source ceases to fulfill the criteria of subsection (b)(1) of this Section, the limitations of Section 219.204(l) of this Part shall continue to apply to any wood furniture coating line which was ever subject to the limitations of Section 219.204(l) of this Part.

3) For the purposes of subsection (b) of this Section, an emission ~~source~~unit shall be considered regulated by a Subpart if it is subject to the limitations of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. ~~its emissions are below the applicability cutoff level or if the source is covered by an exemption.~~

4) Any owner or operator of a wood furniture coating line to which the limitations of this Subpart are not applicable due to the criteria in subsection (b) of this Section shall, upon request by the Agency or the USEPA, submit records to the Agency and the USEPA within 30 calendar days from the date of the request that document that the coating line is exempt from the limitations of this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.209 Exemption From General Rule on Use of Organic Material

No owner or operator of a coating line subject to the limitations of Section 219.204 of this Part is required to meet the limitations of Subpart G (Section 219.301 or 219.302) of this Part, after the date by which the coating line is required to meet Section 219.204 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.210 Compliance Schedule

Every owner or operator of a coating line (of a type included within Section 219.204 of this Part) shall comply with the requirements of Section 219.204, 219.205, 219.207 or 219.208 and Section 219.211 of this Part in accordance with the appropriate compliance schedule as specified in subsection (a), (b), (c) or (d) below:

a) No owner or operator of a coating line which is exempt from the limitations of Section 219.204 of this Part because of the criteria in Section 219.208(a) of this Part shall operate said coating line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 219.211(b) of this Part. Wood furniture coating lines are not subject to Section 219.211(b) of this Part.

b) No owner or operator of a coating line complying by means of Section 219.204 of this Part shall operate said coating line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Sections 219.204 and 219.211(c) of this Part.

c) No owner or operator of a coating line complying by means of Section 219.205 of this Part shall operate said coating line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Sections 219.205 and 219.211(d) of this Part.

d) No owner or operator of a coating line complying by means of Section 219.207 of this Part shall operate said coating line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Sections 219.207 and 219.211(e) of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.211 Recordkeeping and Reporting

a) The VOM content of each coating and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in Section 219.105 of this Part to establish the records required under this Section.

b) Any owner or operator of a coating line which is exempted from the limitations of Section 219.204 of this Part because of Section 219.208(a) of this Part shall comply with the following:

1) By a date consistent with Section 219.106 of this Part, the owner or operator of a ~~facility~~coating line or group of coating lines referenced in ~~this~~ subsection (b) of this Section shall certify to the Agency that the ~~facility~~coating line or group

of coating lines is exempt under the provisions of Section 219.208(a) of this Part. Such certification shall include:

A) A declaration that the ~~facility~~coating line is exempt from the limitations of Section 219.204 of this Part because of Section 219.208(a) of this Part; and

B) Calculations which demonstrate that the combined VOM emissions from ~~all~~the coating line and all other coating lines in the same category ~~at the facility~~ never exceed 6.8 kg (15 lbs) per day before the application of capture systems and control devices. The following equation shall be used to calculate total VOM emissions:

$$T_c = \sum_{j=1}^{m} \sum_{i=1}^{n} (A_i \quad B_i)_j$$

where:

T~~e~~$_c$ = Total VOM emissions from coating lines ~~at a facility~~ each day before the application of capture systems and control devices in units of kg/day (lbs/day);

m = Number of coating lines at the ~~facility~~source that otherwise would be subject to the same subsection of Section 219.104 of this Part (because they belong to the same category, e.g., can coating);

j = Subscript denoting an individual coating line;

n = Number of different coatings as applied each day on each coating line ~~at the facility~~;

i = Subscript denoting an individual coating;

A_i = Weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of

VOM) as applied each day on each coating line ~~at the facility~~ in units of kg VOM/l (lbs VOM/gal);

B_i = Volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line ~~at the facility~~ in units of l/day (gal/day). The instrument or method by which the owner or operator accurately measured or calculated the volume of each coating as applied on each coating line each day shall be described in the certification to the Agency.

2) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a ~~facility~~coating line or group of lines referenced in this subsection shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~source for a period of three years:

A) The name and identification number of each coating as applied on each coating line.

B) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

3) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a ~~facility~~coating line or group of coating lines exempted from the limitations of Section 219.204 of this Part because of Section 219.208(a) of this Part shall notify the Agency of any record showing that total VOM emissions from the coating ~~facility~~line or group of coating lines exceed 6.8 kg (15 lbs) in any day before the application of capture systems and control devices by sending a copy of such record to the Agency within 30 days after the exceedance occurs.

c) Any owner or operator of a coating line subject to the limitations of Section 219.204 of this Part other than Section 219.204(a)(2) and (a)(3) and complying by means of Section 219.204 of this Part shall comply with the following:

1) By a date consistent with Section 219.106 of this Part, or upon initial start-up of a new coating line, or upon changing the method of compliance from an existing subject coating line from Section 219.205 or Section 219.207 to Section 219.204 of this Part; the owner or operator of a subject coating line shall certify to the Agency that the coating line will be in compliance with Section 219.204 of this Part on and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date. Such certification shall include:

   A) The name and identification number of each coating as applied on each coating line.

   B) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

   ~~C) For coating lines subject to Section 219.204(a)(3) certification shall include:~~

      ~~i) The name and identification number of each coating line which will comply by means of Section 219.204(a)(3),~~

      ~~ii) The name and identification number of each coating as applied on each coating line,~~

      ~~iii)~~ The weight of VOM per volume of each coating as applied on each coating line,

      ~~iv) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line,~~

      ~~v) The method by which the owner or operator will create and maintain records each day as required in subsection (c)(2) below for coating lines subject to Section 219.204(a)(3),~~

~~vi)~~ ~~An example format in which the records required in subsection (c)(2) below for coating lines subject to Section 219.204(a)(3).~~

2) On and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating line ~~subject to the limitations of Section 219.204 and complying by means of Section 219.204~~ shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~ source for a period of three years:

A) The name and identification number of each coating as applied on each coating line.

B) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

~~C)~~ ~~For coating lines subject to Section 218.204(a)(3) the owner or operator shall maintain all records necessary to calculate the daily-weighted average VOM content from the coating line in accordance with the proposal submitted, and approved by the USEPA, pursuant to Section 218.204(a)(3).~~

3) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a subject coating line shall notify the Agency in the following instances:

A) Any record showing violation of Section 219.204 of this Part shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation~~, except that any record showing a violation of Section 219.204(a)(3) shall be reported by sending a copy of such record to the Agency within 15 days from the end of the month in which the violation occurred.~~

B) At least 30 calendar days before changing the method of compliance ~~with Section 219.204~~ from Section 219.204 to Section 219.205 or Section 219.207 of this Part, the owner or operator shall comply with all requirements of subsection (d)(1) or (e)(1) below, respectively. Upon changing the method of compliance ~~with Section 219.204~~ from Section 219.204 to Section 219.205 or Section 219.207 of this Part, the owner or operator shall comply with all requirements of subsection (d) or (e) of this Section, respectively.

~~c)~~ ~~For coating lines subject to Section 219.204(a)(3), the owner or operator shall notify the Agency of any change to the topcoating operation at least 30 days before the change is effected. The Agency shall determine whether or not determines that recertification testing is required, then the owner or operator shall submit a proposal to the Agency to test within 30 days and retest within 30 days of the Agency's approval of the proposal.~~

d) Any owner or operator of a coating line subject to the limitations of Section 219.204 of this Part and complying by means of Section 219.205 of this Part shall comply with the following:

1) By a date consistent with Section 219.106 of this Part, or upon initial start-up of a new coating line, or upon changing the method of compliance for an existing subject coating line from Section 219.204 or Section 219.207 to Section 219.205 of this Part; the owner or operator of the subject coating line shall certify to the Agency that the coating line will be in compliance with Section 219.205 on and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each coating line which will comply by means of Section 219.205 of this Part.

B) The name and identification number of each coating as applied on each coating line.

C) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

D) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line.

E) The method by which the owner or operator will create and maintain records each day as required in subsection (d)(2) of this Section.

F) An example of the format in which the records required in subsection (d)(2) of this Section will be kept.

2) On and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating line ~~subject to the limitations of Section 219.204 and complying by means of Section 219.205,~~ shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~source for a period of three years:

A) The name and identification number of each coating as applied on each coating line.

B) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

C) The daily-weighted average VOM content of all coatings as applied on each coating line as defined in Section 219.104 of this Part.

3) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a subject coating line shall notify the Agency in the following instances:

A) Any record showing violation of Section 219.205 of this Part shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with this subpart from Section 219.205 to Section 219.204 or Section 219.207 of this Part, the owner or operator shall comply with all requirements of subsection (c)(1) or (e)(1) of this Section, respectively. Upon changing the method of compliance with this subpart from Section 219.205 to Section 219.204 or Section 219.207 of this Part, the owner or operator shall comply with all requirements of subsection (c) or (e) of this Section, respectively.

e) Any owner or operator of a coating line subject to the limitations of Section 219.207 and complying by means of Section 219.207(c), (d), (e), (f), (g) or (h) of this Part shall comply with the following:

1) By a date consistent with Section 219.106 of this Part, or upon initial start-up of a new coating line, or upon changing the method of compliance for an existing coating line from Section 219.204 or Section 219.205 to Section 219.207 of this Part, the owner or operator of the subject coating line shall perform all tests and submit to the Agency the results of all tests and calculations necessary to demonstrate that the subject coating line will be in compliance with Section 219.207 of this Part on and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date.

2) On and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date, the owner or operator of a coating line ~~subject to the limitations of Section 219.207~~ subject ~~and complying by means of Section 219.207(c), (d), (e), (f), (g), or (h)~~ shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~source for a period of three years:

A) The weight of VOM per volume of coating solids as applied each day on each coating line, if complying pursuant to Section 219.207(b)(2) of this Part.

B) Control device monitoring data.

C) A log of operating time for the capture system, control device, monitoring equipment and the associated coating line.

D) A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

3) On and after a date consistent with Section 219.106 <u>of this Part</u>, the owner or operator of a subject coating line shall notify the Agency in the following instances:

A) Any record showing violation of Section 219.207 <u>of this Part</u> shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with this Subpart from Section 219.207 to Section 219.204 or Section 219.205 <u>of this Part</u>, the owner or operator shall comply with all requirements of subsection (c)(1) or (d)(1) of this Section, respectively. Upon changing the method of compliance with this subpart from Section 219.207 to Section 219.204 or Section 219.205 <u>of this Part</u>, the owner or operator shall comply with all requirements of subsection (c) or (d) of this Section, respectively.

<u>f) Any owner or operator of a primer surfacer operation or topcoat operation subject to the limitations of Section 219.204(a)(2) or (a)(3)of this Part shall comply with the following:</u>

<u>1) By a date consistent with Section 219.106 of this Part, or upon initial start-up of a new coating operation, the owner or operator of a subject coating operation shall certify to the Agency that the operation will be in compliance with Section 219.204 of this Part on and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date. Such certification shall include:</u>

<u>A) The name and identification number of each coating operation which will comply by means of Section 219.204(a)(2) and (a)(3) of this Part and the name and identification number of each coating line in each coating operation.</u>

B) The name and identification number of each coating as applied on each coating line in the coating operation.

C) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

D) The transfer efficiency and control efficiency measured for each coating line.

E) Test reports, including raw data and calculations documenting the testing performed to measure transfer efficiency and control efficiency.

F) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line.

G) The method by which the owner or operator will create and maintain records each day as required in subsection (f)(2) below.

H) An example format for presenting the records required in subsection (f)(2) below.

2) On and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating operation shall collect and record all of the following information each day for each topcoat or primer surfacer coating operation and maintain the information at the source for a period of three years:

A) All information necessary to calculate the daily-weighted average VOM emissions from the coating operations in kg (lbs) per 1 (gal) of coating solids deposited in accordance with the proposal submitted, and approved pursuant to Section 219.204(a)(2) or (a)(3) of this Part including:

i) The name and identification number of each coating as applied on each coating operation.

ii) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating operation.

B) If a control device(s) is used to control VOM emissions, control device monitoring data; a log of operating time for the capture system, control device, monitoring equipment and the associated coating operation; and a maintenance log for the capture system, control device and monitoring equipment, detailing all routine and non-routine maintenance performed including dates and duration of any outages.

3) On and after a date consistent with Section 219.106 of this Part or on and after the initial start-up date, the owner or operator of a subject coating operation shall determine and record the daily VOM emissions in kg(lbs) per 1 (gal) of coating solids deposited in accordance with the proposal submitted and approved pursuant to Section 219.204(a)(2) or (a)(3) of this Part within 10 days from the end of the month and maintain this information at the source for a period of three years.

4) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a subject coating operation shall notify the Agency in the following instances:

A) Any record showing a violation of Section 219.204(a)(2) or (a)(3) of this Part shall be reported by sending a copy of such record to the Agency within 15 days from the end of the month in which the violation occurred.

B) The owner or operator shall notify the Agency of any change to the operation at least 30 days before the change is effected. The Agency shall determine whether or not compliance testing is required. If the Agency determines that compliance testing is required, then the owner or operator shall submit a testing proposal to the Agency within 30 days and test within 30 days of the approval of the proposal by the Agency and USEPA.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART G: USE OF ORGANIC MATERIAL

Section 219.301 Use of Organic Material

No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission ~~source~~unit, except as provided in Sections 219.302, 219.303, 219.304 of this Part and the following exception: If no odor nuisance exists the limitation of this Subpart shall apply only to photochemically reactive material.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.302 Alternative Standard

Emissions of organic material in excess of those permitted by Section 219.301 of this Part are allowable if such emissions are controlled by one of the following methods:

a) Flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water; or,

b) A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere; or,

c) Any other air pollution control equipment approved by the Agency and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.303 Fuel Combustion Emission ~~Sources~~Units

The provisions of Sections 219.301 and 219.302 of this Part shall not apply to fuel combustion emission ~~sources~~units.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.304 Operations with Compliance Program

The provisions of Sections 219.301 and 219.302 of this Part shall not apply to any owner, operator, user or manufacturer of paint, varnish, lacquer, coatings or printing ink whose compliance program and project completion schedule, as required by 35 Ill. Adm. Code 201, provided for the reduction of organic material used in such process to 20 percent or less of total volume by May 30, 1977.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART H: PRINTING AND PUBLISHING

Section 219.401 Flexographic and Rotogravure Printing

a) No owner or operator of a subject flexographic, packaging rotogravure or publication rotogravure printing line shall apply at any time any coating or ink unless the VOM content does not exceed the limitation specified in either subsection (a)(1) or (a)(2) below. Compliance with this Section must be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 219.105(a) and the recordkeeping and reporting requirements specified in Section 219.404(c) of this Part. As an alternative to compliance with this subsection, a subject printing line may meet the requirements of subsection (b) or (c) below.

1) Forty percent VOM by volume of the coating and ink (minus water and any compounds which are specifically exempted from the definition of VOM), or

2) Twenty-five percent VOM by volume of the volatile content in the coating and ink.

b) No owner or operator of a subject flexographic, packaging rotogravure or publication rotogravure printing line shall apply coatings or inks on the subject printing line unless the weighted average, by volume, VOM content of all coatings and inks as applied each day on the subject printing line does not exceed the limitation specified in either subsection (a)(1) (as determined by subsection (b)(1)) or subsection (a)(~~1~~2)) (as determined by subsection (b)(2) of this Section). Compliance with this subsection must be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 219.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 219.404(d) of this Part.

1) The following equation shall be used to determine if the weighted average VOM content of all coatings and inks as applied each day on the subject printing line exceeds the limitation specified in subsection (a)(1) of this Section.

$$VOM_{(i)(A)} = \frac{\sum_{i=\cancel{i}\underline{1}}^{n} C_i \; L_i \; (V_{si} + V_{VOMi})}{\sum_{i=\cancel{i}\underline{1}}^{n} L_i \; (V_{si} + V_{VOMi})}$$

Where:

$VOM_{(i)(A)}$ = The weighted average VOM content in units of percent VOM by volume of all coatings and inks (minus water and any compounds which are specifically exempted from the definition of VOM) used each day~~,~~;

i = Subscript denoting a specific coating or ink as applied~~,~~;

n = The number of different coatings and/or inks as applied each day on a printing line~~,~~;

C_i = The VOM content in units of percent VOM by volume of each coating or ink as applied (minus water and any compounds which are specifically exempted from the definition of VOM)~~,~~;

L_i = The liquid volume of each coating or ink as applied in units of l (gal)~~,~~;

V_{si} = The volume fraction of solids in each coating or ink as applied~~, and~~;

V_{VOMi} = The volume fraction of VOM in each coating or ink as applied.

2) The following equation shall be used to determine if the weighted average VOM content of all coatings and inks as applied each day on the subject printing line exceeds the limitation specified in subsection (a)(2) of this Section.

$$VOM_{(i)(B)} = \frac{\sum_{i=1}^{n} C_i \, L_i \, V_{VMi}}{\sum_{i=1}^{n} L_i \, V_{VMi}}$$

where:

$VOM_{(i)(B)}$ = The weighted average VOM content in units of percent VOM by volume of the volatile content of all coatings and inks used each day~~,~~;

i = Subscript denoting a specific coating or ink as applied~~,~~;

n = The number of different coatings and/or inks as applied each day on each printing line~~,~~;

C_i = The VOM content in units of percent VOM by volume of the volatile matter in each coating or ink as applied~~,~~;

L_i = The liquid volume of each coating or ink as applied in units of l (gal)~~, and~~;

V_{VMi} = The volume fraction of volatile matter in each coating or ink as applied.

c) No owner or operator of a subject flexographic, packaging rotogravure or publication rotogravure printing line equipped with a capture system and control device shall operate the subject printing line unless the owner or operator meets the requirements in subsection (c)(1), (c)(2) or (c)(3) and subsections (c)(4), (c)(5) and (c)(6) below.

1) A carbon adsorption system is used which reduces the captured VOM emissions by at least 90 percent by weight, or

2) An incineration system is used which reduces the captured VOM emissions by at least 90 percent by weight, or

3) An alternative VOM emission reduction system is used which is demonstrated to have at least a 90 percent control device efficiency, approved by the Agency and approved by USEPA as a SIP revision, and

4) The printing line is equipped with a capture system and control device that provides an overall reduction in VOM emissions of at least:

   A) 75 percent where a publication rotogravure printing line is employed, or

   B) 65 percent where a packaging rotogravure printing line is employed, or

   C) 60 percent where a flexographic printing line is employed, and

5) The control device is equipped with the applicable monitoring equipment specified in Section 219.105(d)(2) of this Part and, except as provided in Section 219.105(d)(3) of this Part, the monitoring equipment is installed, calibrated, operated and maintained according to vendor specifications at all times the control device is in use, and

6) The capture system and control device are operated at all times when the subject printing line is in operation. The owner or operator shall demonstrate compliance with this subsection by using the applicable capture system and control device test methods and procedures specified in Section 219.105(c) of this Part through Section 219.105(f) of this Part and by complying with the recordkeeping and reporting requirements specified in Section 219.404(e) of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.402 Applicability

a) The limitations of Section 219.401 of this Part apply to all flexographic and rotogravure printing lines at a subject ~~facility~~source. All ~~facilities~~sources with flexographic and/or rotogravure printing lines are subject ~~facilities~~sources unless:

1) Total maximum theoretical emissions of VOM from all flexographic and rotogravure printing line(s) (including solvents used for cleanup operations associated with flexographic and rotogravure printing line(s)), at the ~~facility~~source never exceed 90.7 Mg 100 tons) per calendar year before the application of capture systems and control devices, or

2) A federally enforceable ~~construction~~ permit or SIP revision for all flexographic and rotogravure printing line(s) at a ~~facility~~source requires the owner or operator to limit production or capacity of these printing line(s) to reduce total VOM emissions from all flexographic and rotogravure printing line(s) to 90.7 Mg (100 tons) or less per calendar year before the application of capture systems and control devices.

b) Upon achieving compliance with this Subpart, the ~~emission source is~~flexographic and rotogravure printing lines are not required to meet Subpart G (Sections 219.301 or 219.302 of this Part). ~~Emission sources~~ Flexographic and rotogravure printing lines exempt from this Subpart are subject to Subpart G (Sections 219.301 or ~~215~~219.~~8~~302 of this Part). Rotogravure or flexographic equipment used for both roll printing and paper coating is subject to this Subpart.

c) Once subject to the limitations of Section 219.401 of this Part, a flexographic or rotogravure printing line is always subject to the limitations of Section 219.401 of this Part.

d) Any owner or operator of any flexographic or rotogravure printing line that is exempt from the limitations of Section 219.401 of this Part because of the criteria in this Section is subject to the recordkeeping and reporting requirements specified in Section 219.404(b) of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.403 Compliance Schedule

Every owner or operator of a flexographic and/or rotogravure printing line shall comply with the applicable requirements of Section 219.401 and Section 219.404 of this Part in accordance with the applicable compliance schedule specified in subsection (a), (b), (c) or (d) below:

a) No owner or operator of a flexographic or rotogravure printing line which is exempt from the limitations of Section 219.401 of this Part because of the criteria in Section 219.402 of this Part shall operate said printing line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 219.404(b) of this Part.

b) No owner or operator of a flexographic or rotogravure printing line complying by means of Section 219.401(a) of this Part shall operate said printing line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 219.401(a) of this Part and Section 219.404(c) of this Part.

c) No owner or operator of a flexographic or rotogravure printing line complying by means of Section 219.401(b) of this Part shall operate said printing line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 219.401(b) and Section 219.404(d) of this Part.

d) No owner or operator of a flexographic or rotogravure printing line complying by means of Section 219.401(c) of this Part shall operate said printing line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, Section 219.401(c) and Section 219.404(e) of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ____________ __________)

Section 219.404 Recordkeeping and Reporting

a) The VOM content of each coating and ink and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in Section 219.105 of this Part to establish the records required under this Section.

b) Any owner or operator of a printing line which is exempted from the limitations of Section 219.401 of this Part because of the criteria in Section 219.402 of this Part shall comply with the following:

1) By a date consistent with Section 219.106 of this Part, the owner or operator of a ~~facility~~flexographic and rotogravure printing line to which this subsection is applicable shall certify to the Agency that the ~~facility~~ flexographic and rotogravure printing line is exempt under the provisions of Section 219.402 of this Part. Such certification shall include:

A) A declaration that the ~~facility~~flexographic and rotogravure printing line is exempt from the limitations of the criteria in Section 219.401 because of Section 219.402 of this Part, and

B) Calculations which demonstrate that total maximum theoretical emissions of VOM from all flexographic and rotogravure printing lines at the ~~facility~~source never exceed 90.7 Mg (100 tons) per calendar year before the application of capture systems and control devices. Total maximum theoretical emissions of VOM for a flexographic or rotogravure printing ~~facility~~source is the sum of maximum theoretical emissions of VOM from each flexographic and rotogravure printing line at the ~~facility~~source. The following equation shall be used to calculate total maximum theoretical emissions of VOM per calendar year before the application of capture systems and control devices for each flexographic and rotogravure printing line at the ~~facility~~source:

$$E_p = A \times B + 1095\ (C \times D \times F)$$

where:

E_p = Total maximum theoretical emissions of VOM from one flexographic or rotogravure printing line in units of kg/year (lbs/year)~~,~~;

A = Weight of VOM per volume of solids of the coating or ink with the highest VOM content as applied each year on the printing line in units of kg VOM/l (lbs VOM/gal) of coating or ink solids~~,~~;

B = Total volume of solids for all coatings and inks that can potentially be applied each year on the printing line in units of l/year (gal/year). The instrument and/or method by which the owner or operator accurately measured or calculated the volume of each coating and ink as applied and the amount that can potentially be applied each year on the printing line shall be described in the certification to the Agency~~.~~;

C = Weight of VOM per volume of material for the cleanup material or solvent with the highest VOM content as used each year on the printing line in units of Kg/l (lbs VOM/gal) of such material;

D = The greatest volume of cleanup material or solvent used in any 8-hour period; and

F = The highest fraction of cleanup material or solvent which is not recycled or recovered for offsite disposal during any 8-hour period.

2) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a facility referenced in this subsection shall collect and record all of the following information each year for each printing line and maintain the information at the ~~facility~~source for a period of three years:

A) The name and identification number of each coating and ink as applied on each printing line.

B) The VOM content and the volume of each coating and ink as applied each year on each printing line.

3) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a facility exempted from the limitations of Section 219.401 of this Part because of the criteria in Section 219.402 of this Part shall notify the

Agency of any record showing that total maximum theoretical emissions of VOM from all printing lines exceed 90.7 Mg (100 tons) in any calendar year before the application of capture systems and control devices by sending a copy of such record to the Agency within 30 days after the exceedance occurs.

c) Any owner or operator of a printing line subject to the limitations of Section 219.401 of this Part and complying by means of Section 219.401(a) of this Part shall comply with the following:

1) By a date consistent with Section 219.106 of this Part, or upon initial start-up of a new printing line, or upon changing the method of compliance from an existing subject printing line from Section 219.401(b) or Section 219.401(c) to Section 219.401(a) of this Part, the owner or operator of a subject printing line shall certify to the Agency that the printing line will be in compliance with Section 219.401(a) of this Part on and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each coating and ink as applied on each printing line.

B) The VOM content of each coating and ink as applied each day on each printing line.

2) On and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of Section 219.401 of this Part and complying by means of Section 219.401(a) of this Part shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~ source for a period of three years:

A) The name and identification number of each coating and ink as applied on each printing line.

B) The VOM content of each coating and ink as applied each day on each printing line.

3) On and after a date consistent with Section 219.106 <u>of this Part</u>, the owner or operator of a subject printing line shall notify the Agency in the following instances:

A) Any record showing violation of Section 219.401(a) <u>of this Part</u> shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Section 219.401 <u>of this Part</u> from Section 219.401(a) to Section 219.401(b) or (c) <u>of this Part</u>, the owner or operator shall comply with all requirements of subsection ~~(b)(1) or (c)(1)~~ <u>(d)(1) or (e)(1) of this Section</u>, respectively. Upon changing the method of compliance with Section 219.401 <u>of this Part</u> from Section 219.401(a) to Section 219.401(b) or (c) <u>of this Part</u>, the owner or operator shall comply with all requirements of subsection ~~(b)~~ <u>(d)</u> or ~~(c)~~ <u>(e) of this Section</u>, respectively.

d) Any owner or operator of a printing line subject to the limitations of Section 219.401 <u>of this Part</u> and complying by means of Section 219.401(b) <u>of this Part</u> shall comply with the following:

1) By a date consistent with Section 219.106 <u>of this Part</u>, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing subject printing line from Section 219.401(a) or (c) to Section 219.401(b) <u>of this Part</u>, the owner or operator of the subject printing line shall certify to the Agency that the printing line will be in compliance with Section 219.401(b) <u>of this Part</u> on and after a date consistent with Section 219.106 <u>of this Part</u>, or on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each printing line which will comply by means of Section 219.401(b) <u>of this Part</u>.

B) The name and identification number of each coating and ink available for use on each printing line.

C) The VOM content of each coating and ink as applied each day on each printing line.

D) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating and ink as applied each day on each printing line.

E) The method by which the owner or operator will create and maintain records each day as required in subsection ~~(b)~~<u>(d)</u>(2) <u>of this Section</u>.

F) An example of the format in which the records required in subsection ~~(b)~~<u>(d)</u>(2) <u>of this Section</u> will be kept.

2) On and after a date consistent with Section 219.106 <u>of this Part</u>, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of Section 219.401 and complying by means of Section 219.401(b) <u>of this Part</u> shall collect and record all of the following information each day for each printing line and maintain the information at the ~~facility~~<u>source</u> for a period of three years:

A) The name and identification number of each coating and ink as applied on each printing line.

B) The VOM content and the volume of each coating and ink as applied each day on each printing line.

C) The daily-weighted average VOM content of all coatings and inks as applied on each printing line.

3) On and after a date consistent with Section 219.106 <u>of this Part</u>, the owner or operator of a subject printing line shall notify the Agency in the following instances:

A) Any record showing violation of Section 219.401(b) <u>of this Part</u> shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Section 219.401 <u>of</u>

this Part from Section 219.401(b) to Section 219.401(a) or 219.401(c) of this Part, the owner or operator shall comply with all requirements of subsection (c)(1) or (e)(1) of this Section, respectively. Upon changing the method of compliance with Section 219.401 of this Part from Section 219.401(b) to Section 219.401(a) or (c) of this Part, the owner or operator shall comply with all requirements of subsection (c) or (e) of this Section, respectively.

e) Any owner or operator of a printing line subject to the limitations of Section 219.401 of this Part and complying by means of Section 219.401(c) of this Part shall comply with the following:

1) By a date consistent with Section 219.106 of this Part, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing printing line from Section 219.401(a) or (b) to Section 219.401(c) of this Part, the owner or operator of the subject printing line shall perform all tests and submit to the Agency the results of all tests and calculations necessary to demonstrate that the subject printing line will be in compliance with Section 219.401(c) of this Part on and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date.

2) On and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of Section 219.401 of this Part and complying by means of Section 219.401(c) of this Part shall collect and record all of the following information each day for each printing line and maintain the information at the facility for a period of three years:

A) Control device monitoring data.

B) A log of operating time for the capture system, control device, monitoring equipment and the associated printing line.

C) A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

3) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a subject printing line shall notify the Agency in the following instances:

A) Any record showing violation of Section 219.401(c) of this Part, shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Section 219.401 of this Part from Section 219.401(c) to Section 219.401(a) or (b) of this Part, the owner or operator shall comply with all requirements of subsection (c)(1) or (d)(1) of this Section, respectively. Upon changing the method of compliance with Section 219.401 of this Part from Section 219.401(c) to Section 219.401(a) or (b) of this Part, the owner or operator shall comply with all requirements of subsection (c) or (d) of this Section, respectively.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.405 Heatset-Web-Offset Lithographic Printing

a) Applicability

1) The limitations of subsection (b) below apply to all heatset-web-offset lithographic printing lines at a subject ~~facility~~source. All ~~facilities~~ sources with heatset-web-offset lithographic printing lines are subject ~~facilities~~ sources unless:

A) Total maximum theoretical emissions of VOM from all heatset-web-offset lithographic printing lines (including solvents used for cleanup operations associated with the heatset-web-offset lithographic printing line(s)) at the ~~facility~~source never exceed 90.7 Mg (100 tons) per calendar year in the absence of air pollution control equipment, or

B) A federally enforceable ~~construction~~ permit or SIP revision for all heatset-web-offset lithographic printing lines(s) at a ~~facility~~source requires the owner or operator to limit production or capacity of these printing line(s) to reduce total VOM emissions from all heatset-web-offset lithographic printing line(s) to 90.7 Mg (100 tons) per calendar year or less in the absence of air pollution control equipment, and

2) Any owner or operator of any heatset-web-offset lithographic printing line that is exempt from the limitations in subsection (b) of this Section because of the criteria in subsection (a)(1) of this Section shall be subject to the recordkeeping and reporting requirements in subsection (c)(1) of this Section.

b) Specific Provisions. No owner or operator of a subject heatset-web-offset printing line may cause or allow the operation of the subject heatset-web-offset printing line unless the owner or operator meets the requirements in subsection (b)(1) or (b)(2) and the requirements in subsections (b)(3) and (b)(4) below.

1) An afterburner system is installed and operated that reduces 90 percent of the VOM emissions from the dryer exhaust, or

2) The fountain solution contains no more than 8 percent, by weight, of VOM and a condensation recovery system is installed and operated that removes at least 75 percent of the non-isopropyl alcohol organic materials from the dryer exhaust, and

3) The control device is equipped with the applicable monitoring equipment specified in Section 219.105(d)(2) of this Part and the monitoring equipment is installed, calibrated, operated and maintained according to vendor specifications at all times the control device is in use, and

4) The control device is operated at all times when the subject printing line is in operation. The owner or operator shall demonstrate compliance with this Section by using the applicable test methods and procedures specified in Section 219.105(a), (d), and (f) of this Part and by

complying with the recordkeeping and reporting requirements specified in subsection (c) below.

c) Recordkeeping and Reporting. The VOM content of each fountain solution and ink and the efficiency of each control device shall be determined by the applicable test methods and procedures specified in Section 219.105 <u>of this Part</u> to establish the records required under this subsection.

1) Any owner or operator of a printing line which is exempted from the limitations of subsection (b) <u>of this Section</u> because of the criteria in subsection (a) <u>of this Section</u> shall comply with the following:

A) By a date consistent with Section 219.106 <u>of this Part</u>, the owner or operator of a ~~facility~~ <u>heatset-web-offset lithographic printing line</u> to which subsection (c)(1) <u>of this Section</u> is applicable shall certify to the Agency that the facility is <u>heatset-web-offset lithographic printing line</u> exempt under the provisions of subsection (a) <u>of this Section</u>. Such certification shall include:

i) A declaration that the ~~facility~~ <u>heatset-web-offset lithographic printing line</u> is exempt from the limitations of subsection (b) <u>of this Section</u> because of the criteria in subsection (a) <u>of this Section</u>, and

ii) Calculations which demonstrate that total maximum theoretical emissions of VOM from all heatset-web-offset lithographic printing lines at the ~~facility~~<u>source</u> never exceed 90.7 Mg (100 tons) per calendar year before the application of air pollution control equipment. Total maximum theoretical emissions of VOM for a heatset-web-offset lithographic printing ~~facility~~ <u>source</u> is the sum of maximum theoretical emissions of VOM from each heatset-web-offset lithographic printing line at the facility. The following equation shall be used to calculate total maximum theoretical emissions of VOM per calendar year in the absence of air pollution control equipment for each heatset-web-offset lithographic printing line at the ~~facility~~source.

$$E_p = (A \times B) + \frac{(C \times D)+1095\ (F \times G \times H)}{100}$$

where:

E_p = Total maximum theoretical emissions of VOM from one heatset-web-offset printing line in units of kg/year (lbs/year)~~,~~;

A = Weight of VOM per volume of solids of ink with the highest VOM content as applied each year on the printing line in units of kg VOM/l (lbs VOM/gal) of solids~~,~~ ~~and~~;

B = Total volume of solids for all inks that can potentially be applied each year on the printing line in units of l/year (gal/year). The instrument or method by which the owner or operator accurately measured or calculated the volume of each ink as applied and the amount that can potentially be applied each year on the printing line shall be described in the certification to the Agency~~,~~;

C = The weight percent VOM of the fountain solution with the highest VOM content~~,~~;

D = The total volume of fountain solution that can potentially be used each year on the printing line in units of l/year (gal/year). The instrument and/or method by which the owner or operator accurately measured or calculated the volume of each fountain solution used and the amount that can potentially be used each year on the printing line shall be described in the certification to the Agency~~.~~;

F = Weight of VOM per volume of material for the cleanup material or solvent with the highest VOM content as used each year on the printing line in units of Kg/l (lbs VOM/gal) of such material;

G = The greatest volume of cleanup material or solvent used in any 8-hour period; and

H = The highest fraction of cleanup material or solvent which is not recycled or recovered for offsite disposal during any 8-hour period.

B) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a ~~facility~~ heatset-web-offset lithographic printing line to which subsection (c)(1) of this Section is applicable shall collect and record all of the following information each year for each printing line and maintain the information at the ~~facility~~source for a period of three years:

i) The name and identification of each fountain solution and ink as applied on each printing line.

ii) The VOM content and the volume of each fountain solution and ink as applied each year on each printing line.

C) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a ~~facility~~heatset-web-offset lithographic printing line exempted from the limitations of subsection (b) of this Section because of the criteria in subsection (a) of this Section shall notify the Agency of any record showing that total maximum theoretical emissions of VOM from all printing lines exceed 90.7 Mg (100 tons) in any calendar year in the absence of air pollution control equipment by sending a copy of such record to the Agency within 30 days after the exceedance occurs.

2) Any owner or operator of a printing line subject to the limitations of subsection (b) of this Section and complying by means of subsection (b)(1) of this Section shall comply with the following:

A) By a date consistent with Section 219.106 of this Part, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing printing line from subsection (b)(2) to subsection (b)(1) of this Section; the owner or operator of the subject printing line shall perform all tests and submit to the Agency the results of all tests and calculations necessary to demonstrate that the subject printing line will be in compliance with subsection (b)(1) of this Section on and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date.

B) On and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of subsection (b) of this Section and complying by means of subsection (b)(1) of this Section shall collect and record the following information each day for each printing line and maintain the information at the ~~facility~~source for a period of three years:

i) Control device monitoring data.

ii) A log of operating time for the control device, monitoring equipment and the associated printing line.

iii) A maintenance log for the control device and monitoring equipment detailing all routine and nonroutine maintenance performed including dates and duration of any outages.

C) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a subject printing line shall notify the Agency in the following instances:

i) Any record showing violation of subsection (b)(1) of this Section shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

ii) At least 30 calendar days before changing the method of compliance with subsection (b) of this Section from subsection (b)(1) to (b)(2) of this Section, the owner or operator shall comply with all requirements of subsection (c)(3)(A) of this Section. Upon changing the method of compliance with subsection (b) from subsection (b)(1) to (b)(2) of this Section, the owner or operator shall comply with all requirements of subsection (c)(3) of this Section.

3) Any owner or operator of a printing line subject to the limitations of subsection (b) of this Section and complying by means of subsection (b)(2) of this Section shall comply with the following:

A) By a date consistent with Section 219.106 of this Part, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing printing line from subsection (b)(1) to (b)(2) of this Section; the owner or operator of the subject printing line shall perform all tests and submit to the Agency and the USEPA the results of all tests and calculations necessary to demonstrate that the subject printing line will be in compliance with subsection (b)(2) of this Section on and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date.

B) On and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of subsection (b) of this Section and complying by means of subsection (b)(2) of this Section shall collect and record the following information each day for each printing line and maintain the information at the ~~facility~~source for a period of three years:

i) The VOM content of the fountain solution used each day on each printing line.

ii) A log of operating time for the control device and the associated printing line.

iii) A maintenance log for the control device detailing all routine and non-routine maintenance performed including dates and duration of any outages.

C) On and after a date consistent with Section 219.106 of this Part, the owner or operator of a subject printing line shall notify the Agency in the following instances:

i) Any record showing violation of subsection (b)(2) of this Section shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

ii) At least 30 calendar days before changing the method of compliance with subsection (b) of this Section from subsection (b)(2) to (b)(1) of this Section, the owner or operator shall comply with all requirements of subsection (c)(2)(A) of this Section. Upon changing the method of compliance with subsection (b) from subsection (b)(2) to (b)(1) of this Section, the owner or operator shall comply with all requirements of subsection (c)(2) of this Section.

d) Compliance Schedule. Every owner or operator of a heatset-web-offset lithographic printing line shall comply with the applicable requirements of subsections (b) and (c) of this Section in accordance with the applicable compliance schedule specified in subsection (d)(1), (d)(2), or (d)(3) below:

1) No owner or operator of a heatset-web-offset lithographic printing line which is exempt from the limitations of subsection (b) of this Section

because of the criteria in subsection (a) of this Section shall operate said printing line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, subsection ~~(b)~~ (a)(1) and (c)(1) of this Section.

2) No owner or operator of a heatset-web-offset lithographic printing line complying by means of subsection (b)(1) of this Section shall operate said printing line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, subsection ~~(b)(2)~~ (b)(1), (b)(3), (b)(4) and (c)(2) of this Section.

3) No owner or operator of a heatset-web-offset lithographic printing line complying by means of subsection (b)(2) of this Section shall operate said printing line on or after a date consistent with Section 219.106 of this Part, unless the owner or operator has complied with, and continues to comply with, subsection (b)(2), (b)(3), (b)(4) and (c)(3) of this Section.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART Q: LEAKS FROM SYNTHETIC ORGANIC CHEMICAL AND POLYMER MANUFACTURING ~~EQUIPMENT~~ PLANT

Section 219.421 General Requirements

The owner or operator of a plant which processes more than 3660 mg/yr (4033 tons/year) gaseous and light liquid VOM, and whose components are used to manufacture the synthetic organic chemicals or polymers listed in Appendix A, shall comply with this Subpart. The provisions of this Subpart are applicable to components containing 10 percent or more by weight VOM as determined by ASTM method E-168, E-169 and E-260, incorporated by reference in Section 219.112 of this Part. Those components that are not process unit components are exempt from this Subpart. A component shall be considered to be leaking if the VOM is equal to, or is greater than 10,000 ppmv as methane or hexane as determined by USEPA Reference Method 21, as specified at 40 CFR 60, Appendix A, incorporated by reference in Section 219.112 of this Part, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed. The provisions of this Subpart are not applicable if the equipment components are used to produce heavy liquid chemicals only from heavy liquid feed or raw materials.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.422 Inspection Program Plan for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 219.421 of this Part shall prepare an inspection program plan which contains, at a minimum:

a) An identification of all components and the period in which each will be monitored pursuant to Section 219.423 of this Part.

b) The format for the monitoring log required by Section 219.425 of this Part.

c) A description of the monitoring equipment to be used when complying with Section 219.423 of this Part, and

d) A description of the methods to be used to identify all pipeline valves, pressure relief valves in gaseous service, all leaking components, and components exempted under Section 219.423~~(i)~~(j) of this Part such that they are obvious and can be located by both plant personnel performing monitoring and Agency personnel performing inspections.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.423 Inspection Program for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to this S~~s~~ubpart shall, for the purposes of detecting leaks, conduct a component inspection program using the test methods specified in Method 21, 40 CFR 60, Appendix A (1986), incorporated by reference in Section 219.112 of this Part, consistent with the following provisions:

a) Test annually those components operated near extreme temperature or pressure such that they would be unsafe to routinely monitor and those components which would require the elevation of monitoring personnel higher than two meters above permanent worker access structures or surfaces.

b) Test quarterly all other pressure relief valves in gas service, pumps in light liquid service, valves in light liquid service and in gas service, and compressors.

c) If less than or equal to 2 percent of the valves in light liquid service and in gas service tested pursuant to subsection (b) <u>of this Section</u> are found ~~not~~ to leak for five consecutive quarters, no leak tests shall be required for three consecutive quarters. Thereafter, leak tests shall resume for the next quarter. If that test shows less than or equal to 2 percent of the valves in light liquid service and in gas service are leaking, then no tests are required for the next three quarters. If more than 2 percent are leaking, then tests are required for the next five quarters.

d) Observe visually all pump seals weekly.

e) Test immediately any pump seal from which liquids are observed dripping.

f) Test any relief valve within 24 hours after it has vented to the atmosphere.

g) Routine instrument monitoring of valves which are not externally regulated, flanges, and equipment in heavy liquid service, is not required. However, any valve which is not externally regulated, flange or piece of equipment in heavy liquid service that is found to be leaking on the basis of sight, smell or sound shall be repaired as soon as practicable but no later than 30 days after the leak is found.

h) Test immediately after repair any component that was found leaking.

i) Within one hour of its detection, a weatherproof, readily visible tag, in bright colors such as red or yellow, bearing an identification number and the date on which the leak was detected must be affixed on the leaking component and remain in place until the leaking component is repaired.

j) The following components are exempt from the monitoring requirements in this Section:

1) Any component that is in vacuum service, and

2) Any pressure relief valve that is connected to an operating flare header or vapor recovery device.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.424 Repairing Leaks

All leaking components must be repaired and retested as soon as practicable but no later than 15 days after the leak is found unless the leaking component cannot be repaired until the process unit is shut down. Records of repairing and retesting must be maintained in accordance with Section 219.425 and 219.426 of this Part.

(Source: Amended at _____, Ill. Reg. ______, effective __________ _________)

Section 219.425 Recordkeeping for Leaks

a) The owner or operator of a synthetic organic chemical or polymer manufacturing plant shall maintain a leaking components monitoring log which shall contain, at a minimum, the following information:

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

   2) The type of component (e.g., valve, seal);

   3) The identification number of the component;

   4) The date on which a leaking component is discovered;

   5) The date on which a leaking component is repaired;

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

   7) A record of the calibration of the monitoring instrument;

   8) The identification number of leaking components which cannot be repaired until process unit shutdown; and

   9) The total number of valves in light liquid service and in gas service inspected; the total number and the percentage of these valves found leaking during the monitoring period.

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

c) Copies of the monitoring log shall be made available to the Agency, upon verbal or written request, prior to or at the time of inspection pursuant to Section 4(d) of the Environmental Protection Act (Act) (Ill. Rev. Stat. 19~~89~~91, ch. 111½, pars. 1001 et seq.) [415 ILCS 5/1 et seq.] at any reasonable time.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.426 Report for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 219.421 through 219.430 of this Part shall:

a) Submit quarterly reports to the Agency on or before March 31, June 30, September 30, and December 31 of each year, listing all leaking components identified pursuant to Section 219.423 of this Part but not repaired within 15 days, all leaking components awaiting process unit shutdown, the total number of components inspected, the type of components inspected, and the total number of components found leaking, the total number of valves in light liquid service and in gas service inspected and the number and percentage of valves in light liquid service and in gas service found leaking.

b) Submit a signed statement with the report attesting that all monitoring and repairs were performed as required under Section 219.421 through 219.427 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.427 Alternative Program for Leaks

The Agency shall approve an alternative program of monitoring, recordkeeping, or reporting to that prescribed in this Subpart upon a demonstration by the owner or operator of such plant that the alternative program will provide ~~plant~~source personnel and Agency personnel with an equivalent ability to identify and repair leaking components. Any alternative program can be allowed when approved by the Agency and approved by the USEPA as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.428 Open-Ended Valves

a) Each open-ended valve shall be equipped with a cap, blind flange, plug, or a second valve, except during operations requiring fluid flow through the open-ended valve.

b) Each open-ended valve equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

c) Components which are open-ended valves and which serve as a sampling connection shall be controlled such that they comply with subsection (c)(1), (c)(2) or (c)(3) below. This requirement does not apply to in-situ sampling systems.~~:~~

1) A closed purge system or closed vent system shall return purged process fluid to the process line with no detectable volatile organic material emissions to the atmosphere, or

2) A closed purge system or closed vent system shall collect and recycle purged process fluid to the process line with no detectable volatile organic material emissions to the atmosphere, or

3) Purged process fluid shall be transported to a control device that complies with the requirements of Section 219.429 of this Part. If a container is used to transport purged process fluid to the control device, the container shall be a closed container designed and used to reduce the VOM emissions vented from purged process fluid after transfer to no detectable VOM emissions as determined by USEPA Reference Method 21, as specified in 40 CFR 60, Appendix A (1990 or 1991) incorporated by reference in Section 219.112 of this Part. For purposes of this Section, the phrase "after transfer" shall refer to the time at which the entire amount of purged process fluid resulting from a flushing or cleaning of the sample line enters the container, provided, however, that purged process fluid may be transferred from the initial container to another closed container prior to disposal, e.g., to a bulk waste storage container.

~~d) In-situ sampling systems are exempt from subsection (c).~~

(Source: Amended at _____, Ill. Reg. ______, effective __________ _________)

Section 219.429 Standards for Control Devices

Control devices used to comply with Section 219.428(c) of this Part shall comply with the following:

a) If the control device is a vapor recovery system (for example, condensers and adsorbers), it shall be designed and operated to recover the volatile organic material emissions vented to it with an efficiency of 95 percent or greater.

b) If the control device is an enclosed combustion device, it shall be designed and operated to reduce the volatile organic material emissions vented to it with an efficiency of 95 percent or greater, or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816°C.

c) If the control device is a flare, it shall:

1) Be designed for and operated with no visible emissions as determined by USEPA Reference Method 22, 40 CFR 60, Appendix A (1986), incorporated by reference in Section 219.112 of this Part, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

2) Be operated with a pilot flame present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame.

3) Be steam-assisted, air-assisted, or nonassisted.

4) Be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be calculated using the following equation:

$$H_r = K \sum_{i=1}^{n} C_i H_i$$

Where:

H_r = Net heating value of the sample in MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C~~.~~;

K = Constant, 1.740×10^{-7} (1/ppm)(g-mole/scm)(MJ/Kcal)

where

standard temperature for (g-mole/scm) is 20°C~~.~~;

C_i = Concentration of sample component i, in ppm, as measured by USEPA Reference Method 18, 40 CFR 60, Appendix A (1986), and ASTM D 2504-83, both incorporated by reference in Section 219.112 of this Part~~.~~;

H_i = Net heat of combustion of sample component i, kcal/g mole. The heats of combustion may be determined using ASTM D 2382-83, incorporated by reference in Section 219.112 of this Part, if published values are not available or cannot be calculated.

5) Steam-assisted and nonassisted flares shall be designed and operated with an exit velocity, as determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by USEPA Reference Method 2 or 2A, 40 CFR 60, Appendix A (1986) incorporated by reference in Section 219.112 of this Part, as appropriate; by the unobstructed (free) cross sectional area of the flare tip, less than 18 m/sec (60 ft/sec).

6) Air-assisted flares shall be designed and operated with an exit velocity less than the maximum permitted velocity, V_{max}, as determined by the following equation:

V_{max}	=	$8.706 + 0.7084(H_r)$~~.~~;
V_{max}	=	Maximum permitted velocity, m/sec~~.~~;
8.706	=	Constant~~.~~;
0.7084	=	Constant~~.~~;
H_r	=	The net heating value as determined in subsection (c)(4) of this section.

d) ~~If the control device is a closed container, it shall be designed and operated to reduce the volatile organic material emissions, vented from purged process fluid after transfer, to no detectable volatile organic material emissions as determined by USEPA Reference Method 21 as specified at 40 CFR 60, Appendix A (1986), incorporated by reference in Section 219.112. For purposes of this Section, the phrase "after transfer" shall refer to the time at which the entire amount of purged process fluid resulting from a flushing or cleaning of the sample line enters the closed container or containers including the final container(s) prior to disposal.~~ The following information pertaining to closed vent systems and control devices subject to Section 219.429 shall be maintained by the owner or operator. These records shall be updated as necessary to describe current operation and equipment. The records shall be retained as a readily accessible location at the source for a minimum of two years after the control device is permanently shutdown.

1) Detailed schematics, design specifications, and piping and instrumentation diagrams;

2) The dates and description of any changes in design specifications;

3) A description of the parameter or parameters monitored and recorded as required in subsection (f)(1) to ensure that the control devices are operated and maintained in conformance with their design and an explanation why that parameter (or parameters) was selected for monitoring.

~~e)~~ ~~The owner or operator of a control device shall monitor the control device to ensure that it is operated and maintained in conformance with the manufacturer's specifications, modified to the particular process design.~~

~~f~~e) The control device shall be operated at all times when emissions may be vented to it.

f) Owners and operators of control devices used to comply with this Subpart shall monitor each control device to ensure that the control device is operated and maintained in conformance with its designs at all times that emissions may be vented to it. This monitoring shall be conducted in accordance with Section 219.429(d)(3). The records prepared as part of this monitoring activity shall include the dates of startup and shutdown of control devices and identify periods when the devices are not operated as designed, including periods when a flare pilot light does not have a flame.

g) The requirements of subsections (d), (e) and (f) shall not apply to a combustion device located at the source used for disposal of purged process fluid which is subject to the Burning of Hazardous Waste in Boilers and Industrials Furnaces (BIF) rules, 40 CFR Parts 260, 261, 264, 265, 266 and 270, or which is subject to the Resource Conservation and Recovery Act (RCRA) rules, 35 Ill. Adm. Code Parts 703, 720, 721, 724, 725 and 726. The owner or operator of such combustion device shall satisfy applicable provisions of the RCRA or BIF rules.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.430 Compliance Date (Repealed)

~~The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to 35 Ill. Adm. Code 215.430 through 215.438 as of December 31, 1987 shall have complied with the standards and limitations of those Sections no later than December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ _________)

SUBPART R: PETROLEUM REFINING AND RELATED INDUSTRIES; ASPHALT MATERIALS

Section 219.441 Petroleum Refinery Waste Gas Disposal

a) Except as provided in subsection (b) or (c) of this Section, no person shall cause or allow the discharge of organic materials in excess of 100 ppm equivalent methane (molecular weight 16.0) into the atmosphere from:

1) Any catalyst regenerator of a petroleum cracking system; or

2) Any petroleum fluid coker; or

3) Any other waste gas stream from any petroleum or petrochemical manufacturing process.

b) Exception. Existing sources subject to subsection (a)(3) of this Section may, alternatively, at their election, comply with the organic material emission limitations imposed by 35 Ill. Adm. Code 21~~5~~9.301 or 21~~5~~9.302; provided, however, that there shall be no increase in emissions from such sources above the level of emissions in existence on May 3, 1979.

c) New Sources. Sources subject to subsection (a)(3) of this Section, construction of which commenced on or after January 1, 1977, may, at their election, comply with the following emission limitations:

1) A maximum of eight pounds per hour of organic material; or

2) Emission of organic material in excess of the limitation of subsection (c)(1) of this Section is allowable if such emissions are controlled by air pollution control methods or equipment approved by the Agency capable of reducing by 85 percent or more the uncontrolled organic material that would otherwise be emitted to the atmosphere. Such methods or equipment must be approved by the Agency and approved by the USEPA as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.443 Wastewater (Oil/Water) Separator

No owner or operator of a petroleum refinery shall operate any wastewater (oil/water) separator at a petroleum refinery unless the separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. If no odor nuisance exists, the limitation of this Section shall not apply if the vapor pressure of the organic material is below 10.34 kPa (1.5 psia) at 2~~0~~94.3°K (70°F) at all times.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.445 Leaks: General Requirements

~~a)~~The owner or operator of a petroleum refinery shall:

~~1~~a) Develop a monitoring program plan consistent with the provisions of Section 219.446 of this Part;

~~2~~b) Conduct a monitoring program consistent with the provisions of Section 219.447 of this Part;

~~3~~c) Record all leaking components which have a volatile organic material concentration exceeding 10,000 ppm consistent with the provisions of Section 219.448 of this Part;

~~4~~d) Identify each component consistent with the monitoring program plan submitted pursuant to Section 219.446 of this Part;

~~5~~e) Repair and retest the leaking components as soon as possible within 22 days after the leak is found, but no later than June 1 for the purposes of Section 219.447(a)(1) of this Part, unless the leaking components cannot be repaired until the unit is shut down for turnaround; and

~~6~~f) Report to the Agency consistent with the provisions of Section 219.449 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.446 Monitoring Program Plan for Leaks

The owner or operator of a petroleum refinery shall prepare a monitoring program plan which contains, at a minimum:

a) An identification of all refinery components and the period in which each will be monitored pursuant to Section 219.447 of this Part;

b) The format for the monitoring log required by Section 219.448 of this Part;

c) A description of the monitoring equipment to be used pursuant to Section 219.447 of this Part; and

d) A description of the methods to be used to identify all pipeline valves, pressure relief valves in gaseous service and all leaking components such that they are obvious to both refinery personnel performing monitoring and Agency personnel performing inspections.

(Source: Amended at _____, Ill. Reg. ______, effective ___________ _________)

Section 219.447 Monitoring Program for Leaks

a) The owner or operator of a petroleum refinery subject to Section 219.445 of this Part shall, for the purpose of detecting leaks, conduct a component monitoring program consistent with the following provisions:

1) Test once between March 1 and June 1 of each year, by methods referenced in Section 219.105(g) of this Part, all pump seals, pipeline valves in liquid service and process drains~~,~~;

2) Test once each quarter of each calendar year, by methods referenced in Section 219.105(g) of this Part, all pressure relief valves in gaseous service, pipeline valves in gaseous service and compressor seals~~,~~;

3) Inaccessible valves may be tested once each calendar year instead of once each quarter of each calendar year~~,~~;

4) Observe visually all pump seals weekly~~,~~;

5) Test immediately any pump seal from which liquids are observed dripping~~,~~;

6) Test any relief valve within 24 hours after it has vented to the atmosphere~~,~~; and

7) Test immediately after repair any component that was found leaking.

b) Storage tank valves and pressure relief devices connected to an operating flare header or vapor recovery device are exempt from the monitoring requirements in subsection (a) of this Section.

c) The Agency may require more frequent monitoring than would otherwise be required by subsection (a) of this Section for components which are demonstrated to have a history of leaking.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.449 Reporting for Leaks

The owner or operator of a petroleum refinery shall:

a) Submit a report to the Agency prior to the 1st day of both July and September listing all leaking components identified pursuant to Section 219.447 of this Part but not repaired within 22 days, all leaking components awaiting unit turnaround, the total number of components inspected and the total number of components found leaking;

b) Submit a signed statement with the report attesting that all monitoring and repairs were performed as required under Sections 219.445 through 219.448 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective _________________________)

Section 219.450 Alternative Program for Leaks

The Agency may approve an alternative program of monitoring, recordkeeping or reporting to that prescribed in Sections 219.446 through 219.449 of this Part upon a demonstration by the owner or operator of a petroleum refinery that the alternative program will provide refinery, Agency and USEPA personnel with an equivalent ability to identify and repair leaking components. Any alternative program can be allowed only if approved by the USEPA as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective _________________________)

Section 219.452 Compliance Schedule for Leaks

The owner or operator of a petroleum refinery shall adhere to the increments of progress contained in the following schedule:

a) Submit to the Agency a monitoring program consistent with Section 219.446 of this Part prior to July 1, 1991 or a date consistent with Section 219.106 of this Part.

b) Submit to the Agency the first monitoring report pursuant to Section 219.449 of this Part prior to August 1, 1991 or a date consistent with Section 219.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective _________________________)

Section 218.453 Compliance Dates (Repealed)

~~Every owner or operator of a petroleum refinery subject to 35 Ill. Adm. Code 215, Subpart R as of December 31, 1987 shall have complied with its standards and limitations by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART S: RUBBER AND MISCELLANEOUS PLASTIC PRODUCTS

Section 219.461 Manufacture of Pneumatic Rubber Tires

The owner or operator of an undertread cementing, treadend cementing or bead dipping operation at a pneumatic rubber tire manufacturing ~~facility~~source shall install and operate:

a) A capture system, with minimum capture efficiency of 65 percent by weight of VOM for treadend cementing or bead dipping operations and a capture system with a minimum capture efficiency of 55.5 percent by weight of VOM for undertread cementing; and

b) A control device that meets the requirements of one of the following:

1) A carbon adsorption system designed and operated in a manner such that there is at least a 90 percent removal of VOM by weight from the gases ducted to the control device;

2) An afterburning system that oxidizes at least 90 percent of the captured nonmethane VOM (VOM measured as total combustible carbon) to carbon dioxide and water; and

3) An alternative VOM emission reduction system demonstrated to have at least a 90 percent overall reduction efficiency and approved by the Agency and approved by the USEPA.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.462 Green Tire Spraying Operations

The owner or operator of a green tire spraying operation at a pneumatic rubber tire manufacturing ~~facility~~source shall:

a) Install and operate:

1) A capture system with a minimum capture efficiency of 90 percent by weight of VOM; and

2) A control device that meets the requirements of one of the following:

A) A carbon adsorption system designed and operated in a manner such that there is at least 90 percent removal of VOM by weight from the ~~bases~~gases ducted to the control device;

B) An afterburning system that oxidizes at least 90 percent of the captured nonmethane VOM (measured as total combustible carbon) to carbon dioxide and water; or

C) An alternative VOM emission reduction system demonstrated to have at least a 90 percent overall reduction efficiency approved by the Agency and approved by the USEPA as a SIP revision.

b) Substitute for the normal solvent-based mold release compound water-based sprays containing:

1) No more than five percent by volume of VOM as applied for the inside of tires;

2) No more than ten percent by volume of VOM as applied for the outside of tires.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.463 Alternative Emission Reduction Systems

In lieu of complying with Section 219.461 or 219.462 of this Part, the owner or operator of an ~~emission~~ source may utilize an alternative volatile organic emission reduction system, including an alternative production process, which is demonstrated to be equivalent to Section 219.461 or 219.462 of this Part on the basis of emissions of volatile organic ~~matter~~ material. A treadend cementing operation shall be considered equivalent to Section 219.461 or 219.462 of this Part for the purposes of this Section if the total volatile organic emission from such operation is 10 grams or less per tire.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.464 ~~Testing and Monitoring~~Emission Testing

a) Upon a reasonable request by the Agency, the owner or operator of a VOM ~~emission~~ source required to comply with a limit of Sections 219.461 through 219.464 of this Part shall conduct emissions testing, at such person's own expense, to demonstrate compliance.

b) A person planning to conduct a VOM emission test to demonstrate compliance shall notify the Agency of that intent not less than 30 days before the planned initiation of the tests so the Agency may observe the test.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 218.465 Compliance Dates (Repealed)

~~Every owner or operator of an emission source subject to 35 Ill. Adm. Code 215, Subpart S, as of December 31, 1987 shall have complied with its standards and limitations by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.466 Compliance Plan (Repealed)

~~a) The owner or operator of an emission source shall have submitted to the Agency a compliance plan, pursuant to 35 Ill. Adm. Code 201, Subpart H, including a project completion schedule where applicable, no later than April 21, 1983.~~

~~b) Unless the submitted compliance plan or schedule was disapproved by the Agency, the owner or operator of a facility or emission source may operate the emission source according to the plan and schedule as submitted.~~

~~c) The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201, Subpart H, including specific interim dates as required in 35 Ill. Adm. Code 201.242.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART T: PHARMACEUTICAL MANUFACTURING

Section 219.480 Applicability

a) The rules of this Subpart, except for Sections 219.483 through 219.485, apply to all emission ~~sources~~units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lbs/day) and more than 2,268 kg/year

(2.5 tons/year) of VOM. If <u>such</u>~~an~~ emission ~~source~~<u>unit</u> emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of this Subpart still apply to the emission ~~source~~<u>unit</u> if VOM emissions from the emission ~~source~~<u>unit</u> exceed 45.4 kg/day (100 lbs/day).

~~b) Notwithstanding subsection (a), the air suspension coater/dryer, fluid bed dryers, tunnel dryers, and Accelacotas located in Libertyville Township, Lake County, Illinois shall be exempt from the rules of this Subpart, except for Sections 219.483 through 219.485, if emissions of VOM not vented to air pollution control equipment do not exceed the following levels:~~

~~1) for the air suspension coater/dryer: 2,268 kg/year (2.5 tons/year);~~

~~2) for each fluid bed dryer: 4,535 kg/year (5.0 tons/year);~~

~~3) for each tunnel dryer: 6,803 kg/year (7.5 tons/year); and~~

~~4) for each Accelacota: 6,803 kg/year (7.5 tons/year).~~

~~c)~~<u>b)</u> Sections 219.483 through 219.485 <u>of this Part</u> apply to a ~~plant~~<u>source</u> having one or more emission ~~sources~~<u>units</u> that:

1) Are used to manufacture pharmaceuticals, and

2) Emit more than 6.8 kg/day (15 lbs/day) of VOM and more than 2,268 kg/year (2.5 tons/year) of VOM, or, if less than 2,268 kg/year (2.5 tons/year), these Sections still apply if emissions from one or more sources exceed 45.4 kg/day (100 lbs/day).

~~d)~~<u>c)</u> No owner or operator shall violate any condition in a permit when the condition results in exclusion of an emission ~~source~~<u>unit</u> from this Subpart.

~~e)~~<u>d)</u> Any pharmaceutical manufacturing source that becomes subject to the provisions of this Subpart at any time shall remain subject to the provisions of this Subpart at all times.

~~f)~~<u>e)</u> Emissions subject to this Subpart shall be controlled at all times consistent with the requirements set forth in this Subpart.

~~g)~~f) Any control device required pursuant to this Subpart shall be operated at all times when the source it is controlling is operated.

~~h)~~g) Determinations of daily and annual emissions for purposes of this Section shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission ~~source~~unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Section 219.487 of this Part for the hourly emission rate (or the emissions per unit of throughput), such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029), incorporated by reference in Section 219.112 of this Part. (This subsection shall not affect the Agency's or the USEPA's authority to require emission tests to be performed pursuant to Section 219.487 of this Part.)

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.481 Control of Reactors, Distillation Units, Crystallizers, Centrifuges and Vacuum Dryers

a) The owner or operator shall equip all reactors, distillation units, crystallizers, centrifuges and vacuum dryers that are used to manufacture pharmaceuticals with surface condensers or other air pollution control equipment listed in subsection (b) of this Section. If a surface condenser is used, it shall be operated such that the condenser outlet gas temperature does not exceed:

1) 248.2°K (-13°F) when condensing VOM of vapor pressure greater than 40.0 kPa (5.8 psi) at 294.3°K (70°F), or

2) 258.2°K (5°F) when condensing VOM of vapor pressure greater than 20.0 kPa (2.9 psi) at 294.3°K (70°F), or

3) 273.2°K (32°F) when condensing VOM of vapor pressure greater than 10.0 kPa (1.5 psi) at 294.3°K (70°F), or

4) 283.2°K (50°F) when condensing VOM of vapor pressure greater than 7.0 kPa (1.0 psi) at 294.3°K (70°F), or

5) 298.2°K (77°F) when condensing VOM of vapor pressure greater than 3.45 kPa (0.5 psi) at 294.3°K (70°F).

b) If a scrubber, carbon adsorber, thermal afterburner, catalytic afterburner, or other air pollution control equipment other than a surface condenser is used, such equipment shall provide a reduction in the emissions of VOM of 90 percent or more.

c) The owner or operator shall enclose all centrifuges used to manufacture pharmaceuticals and that have an exposed VOL surface, where the VOM in the VOL has a vapor pressure of 3.45 kPa (0.5 psi) or more at 294.3°K (70°F), except as production, sampling, maintenance, or inspection procedures require operator access.

(Source: Amended at _____, Ill. Reg. ______, effective ___________ _________)

Section 219.482 Control of Air Dryers, Production Equipment Exhaust Systems and Filters

a) The owner or operator of an air dryer or production equipment exhaust system used to manufacture pharmaceuticals shall control the emissions of VOM from such emission ~~sources~~units by air pollution control equipment which reduces by 90 percent or more the VOM that would otherwise be emitted into the atmosphere.

b) The owner or operator shall enclose all rotary vacuum filters and other filters used to manufacture pharmaceuticals and that have an exposed VOL surface, where the VOM in the VOL has a vapor pressure of 3.45 kPa (0.5 psi) or more at 294.3°K (70°F), except as production, sampling, maintenance, or inspection procedures require operator access.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.483 Material Storage and Transfer

The owner or operator of a pharmaceutical manufacturing ~~plant~~source shall:

a) Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F), and

b) Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F).

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.485 Leaks

The owner or operator of a pharmaceutical manufacturing ~~plant~~source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.486 Other Emission ~~Sources~~ Units

The owner or operator of a washer, laboratory hood, tablet coating operation, mixing operation or any other process emission ~~source~~unit not subject to Sections 219.481 through 219.485 of this Part, and used to manufacture pharmaceuticals shall control the emissions of VOM from such emission ~~sources~~units by:

a) Air pollution control equipment which reduces by 81 percent or more the VOM that would otherwise be emitted to the atmosphere, or

b) A surface condenser which captures all the VOM which would otherwise be emitted to the atmosphere and which meets the requirements of Section 219.481(a) of this Part ~~and (b)~~.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.487 Testing

a) Upon request by the Agency or the USEPA, the owner or operator of any VOM ~~emission~~ source subject to this truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F), and

b) Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F).

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.485 Leaks

The owner or operator of a pharmaceutical manufacturing ~~plant~~source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.486 Other Emission ~~Sources~~ Units

The owner or operator of a washer, laboratory hood, tablet coating operation, mixing operation or any other process emission ~~source~~unit not subject to Sections 219.481 through 219.485 of this Part, and used to manufacture pharmaceuticals shall control the emissions of VOM from such emission ~~sources~~units by:

a) Air pollution control equipment which reduces by 81 percent or more the VOM that would otherwise be emitted to the atmosphere, or

b) A surface condenser which captures all the VOM which would otherwise be emitted to the atmosphere and which meets the requirements of Section 219.481(a) of this Part ~~and (b)~~.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.487 Testing

a) Upon request by the Agency or the USEPA, the owner or operator of any VOM ~~emission~~ source subject to this

Subpart or exempt from this Subpart by virtue of the provisions of Section 219.480 of this Part shall, at his own expense, demonstrate compliance to the Agency and the USEPA by the methods or procedures listed in Section 219.105(f)(1) of this Part.

b) A person planning to conduct a VOM emissions test to demonstrate compliance with this Subpart shall notify the Agency and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test.

(Source: Amended at _____, Ill. Reg. ______, effective __________ _________)

Section 219.489 Recordkeeping for Air Pollution Control Equipment

a) The owner or operator of a pharmaceutical manufacturing ~~facility~~source shall maintain the following records:

1) Parameters listed in Section 219.488(a) of this Part ~~(1)~~ shall be recorded.

2) For ~~sources~~emission units subject to Section 219.481 of this Part, the vapor pressure of VOM being controlled shall be recorded for every process.

b) For any leak subject to Section 219.485 of this Part which cannot be readily repaired within one hour after detection, the following records shall be kept:

1) The name of the leaking equipment,

2) The date and time the leak is detected,

3) The action taken to repair the leak, and

4) The dat~~a~~e and time the leak is repaired.

c) The following records shall be kept for emission ~~sources~~units subject to Section 219.484 of this Part which contain VOL:

1) For maintenance and inspection:

A) The date and time each cover is opened,

B) The length of time the cover remains open, and

C) The reason why the cover is opened.

2) For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers.

d) For each emission ~~source~~unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing ~~plant~~source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Section 219.480(a) or 219.480(b) of this Part, the owner or operator shall:

1) Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission ~~source~~ unit showing that the emissions are below the applicability cutoffs in Section 219.480(a) or 219.480(b) of this Part, as appropriate, for the current and prior calendar years;

2) Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Section 219.480(a) or 219.480(b) of this Part, as appropriate, are ever exceeded; and

3) Provide written notification to the Agency and the USEPA within 30 days of a determination that such an emission ~~source~~unit has exceeded the applicability cutoffs in Section 219.480(a) or 219.480(b) of this Part, as appropriate.

e) Records required under subsection (a) of this Section shall be maintained by the owner or operator for a minimum of two years after the date on which they are made.

f) Copies of the records shall be made available to the Agency or the USEPA upon verbal or written request.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART V: AIR OXIDATION PROCESSES

Section 219.521 Definitions (Repealed)

~~In addition to the definitions of 35 Ill. Adm. Code 211, the following definitions apply to this Subpart:~~

~~"Air Oxidation Process": any unit process including ammoxidation and oxychlorination which uses air or a combination of air and oxygen as an oxidant in combination with one or more organic reactants to produce one or more organic compounds.~~

~~"Cost Effectiveness": the annual expense for cost of control given process stream divided by the reduction in emissions of organic material of that stream.~~

~~"Flow (F)": Vent stream flowrate (scm/min) at a standard temperature of 20°C.~~

~~"Full Operating Flowrate": Maximum operating capacity of the facility.~~

~~"Hourly Emissions (E)": Hourly emissions reported in kg/hr measured at full operating flowrate.~~

~~"Net Heating Value (H)": Vent stream net heating value (MJ/scm), where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of "Flow."~~

~~"Process Vent Stream": An emission stream resulting from an air oxidation process.~~

~~"Total Resource Effectiveness Index (TRE)": Cost effectiveness in dollars per megagram of controlling any gaseous stream vented to the atmosphere from an air oxidation process divided by $1600/Mg, using the criteria and methods set forth in this Subpart and Appendices C and D.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

Section 219.525 Emission Limitations for Air Oxidation Processes

a) No person shall cause or allow the emission of volatile organic material (VOM) from any process vent stream unless the process vent stream is vented to a combustion device which is designed and operated either:

1) To reduce the volatile organic emissions vented to it with an efficiency of at least ninety eight percent (98%) by weight; or

2) To emit VOM at a concentration less than twenty parts per million by volume, dry basis.

b) An ~~A~~air oxidation ~~facilities~~process vent stream for which an existing combustion device is employed to control process VOM emissions ~~are~~is not required to meet the 98 percent emissions limit until the combustion device is replaced for other reasons, which shall be considered to include, but not be limited to, normal maintenance, malfunction, accident, and obsolescence. The combustion device is considered to be replaced when:

1) All of the device is replaced; or

2) When the cost of the repair of the device or the cost of replacement of part of the device exceeds 50% of the cost of replacing the entire device with a device which complies.

c) The limitations of subsection (a) above do not apply to any process vent stream or combination of process vent streams which has a Total Resource Effectiveness Index (TRE) greater than 1.0, as determined by the following methods:

1) If an air oxidation process has more than one process vent stream, TRE shall be based upon a combination of the process vent streams.

2) TRE of a process vent stream shall be determined according to the following equation:

$$TRE = E^{-1} [a + bF^{n} + cF + dFH + e(FH)^{n} + fF^{0.5}]$$

where:

n = 0.88;

TRE = Total resource effectiveness index~~.~~;

F = Vent stream flowrate (scm/min), at a standard temperature of 20°C~~.~~;

E = Hourly measured emissions in kg/hr~~.~~;

H = Net heating value of vent stream (MJ/scm), where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of "Flow"~~.~~;

a,b,c,
d,e
and f = Coefficients obtained by use of Appendix ~~F~~D.

3) For nonchlorinated process vent streams, if the net heating value, H, is greater than 3.6 MJ/scm, F shall be replaced by ~~F1~~F′ for purposes of calculating TRE. ~~F1~~F′ is computed as follows:

~~F1~~F′ = FH / 3.6

where F and H are as defined in subsection (c)(2).

4) The actual numerical values used in the equation described in subsection (c)(2) above shall be determined as follows:

A) All reference methods and procedures for determining the flow, (F), hourly emissions, (E), and net heating, (H), value shall be in accordance with Appendix C.

B) All coefficients described in subsection (c)(2) of this Section shall be in accordance with Appendix D.

(Source: Amended at ___ Ill. Reg. ______, effective __________________________)

Section 219.527 Compliance Date (Repealed)

~~Each owner or operator of an emission source subject to 35 Ill. Adm. Code 215, Subpart V, as of December 31, 1987 shall have complied with the standards and limitations of 35 Ill. Adm. Code 215, Subpart V, by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective __________________________)

SUBPART W: AGRICULTURE

Section 219.541 Pesticide Exception

The provisions of Sections 219.301 and 219.302 of this Part shall not apply to the spraying or use of insecticides, herbicides or other pesticides.

(Source: Amended at ___ Ill. Reg. ______, effective _____________ __________)

SUBPART X: CONSTRUCTION

Section 219.562 Paving Operations

The provisions of Sections 219.301 and 219.302 of this Part shall not apply to the application of paving asphalt and pavement marking paint from sunrise to sunset.

(Source: Amended at ___ Ill. Reg. ______, effective _____________ __________)

SUBPART Y: GASOLINE DISTRIBUTION

Section 219.581 Bulk Gasoline Plants

a) Subject to ~~S~~subsection (e) of this Section, no person may cause or allow the transfer of gasoline from a delivery vessel into a stationary storage tank located at a bulk gasoline plant unless~~:~~;

1) The delivery vessel and the stationary storage tank are each equipped with a vapor collection system that meets the requirements of subsection (d)(4) of this Section~~,~~;

2) Each vapor collection system is operating~~,~~;

3) The delivery vessel displays the appropriate sticker pursuant to the requirements of Sections 219.584 (b) or (d) of this Part~~,~~;

4) The pressure relief valve(s) on the stationary storage tank and the delivery vessel are set to release at no less than 0.7 psi or the highest pressure allowed by state or local fire codes or the guidelines of the National Fire Prevention Association~~,~~; and

5) The stationary storage tank is equipped with a submerged loading pipe.

b) Subject to subsection (f) of this Section, no person may cause or allow the transfer of gasoline from a stationary storage tank located at a bulk gasoline plant into a delivery vessel unless:

1) The requirements set forth in subsections (a)(1) through (a)(4) of this Section are met~~,~~; and

2) Equipment is available at the bulk gasoline plant to provide for the submerged filling of the delivery vessel or the delivery vessel is equipped for bottom loading.

c) Subject to subsection (e) of this Section, each owner of a stationary storage tank located at a bulk gasoline plant shall:

1) Equip each stationary storage tank with a vapor control system that meets the requirements of subsection (a) or (b) of this Section, whichever is applicable~~,~~;

2) Provide instructions to the operator of the bulk gasoline plant describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system~~,~~; and

3) Repair, replace or modify any worn out or malfunctioning component or element of design.

d) Subject to subsection (e) of this Section, each operator of a bulk gasoline plant shall:

1) Maintain and operate each vapor control system in accordance with the owner's instructions~~,~~;

2) Promptly notify the owner of any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system~~,~~; and

3) Maintain gauges, meters or other specified testing devices in proper working order~~,~~;

4) Operate the bulk plant vapor collection system and gasoline loading equipment in a manner that prevents:

A) Gauge pressure from exceeding 45.7 cm (18 in.) of water and vacuum from exceeding 15.2

cm (6 in.) of water, as measured as close as possible to the vapor hose connection~~,~~; and

B) A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems", Appendix B, EPA 450/ 2-78-051, (incorporated by reference in Section 219.112 of this Part)~~,~~; and

C) Avoidable leaks of liquid during loading or unloading operations.

5) Provide a pressure tap or equivalent on the bulk plant vapor collection system in order to allow the determination of compliance with subsection (d)(4)(A) of this Section~~,~~; and

6) Within 15 business days after discovery of any leak by the owner, the operator, the Agency or the USEPA, repair and retest a vapor collection system which exceeds the limits of subsection (d)(4)(A) or (B) of this Section.

e) The requirements of subsections (a), (c) and (d) of this Section shall not apply to:

1) Any stationary storage tank with a capacity of less than 2,177 l (575 gal)~~,~~; or

2) Any bulk gasoline plant whose daily gasoline throughput is less than 15,140 l (4,000 gal/day) on a thirty-day rolling average.

f) The requirements of subsection (b) shall apply only to bulk gasoline plants whose daily gasoline throughput is greater than or equal to 15,140 l (4,000 gal/day) on a thirty-day rolling average.

g) Any bulk gasoline plant which is ever subject to subsections (a), (b), (c), or (d) of this Section shall always be subject to these paragraphs.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.582 Bulk Gasoline Terminals

a) No person shall cause or allow the transfer of gasoline into any delivery vessel from any bulk gasoline terminal unless:

1) The bulk gasoline terminal is equipped with a vapor control system that limits emission of VOM to 80 mg/l (0.00067 lbs/gal) of gasoline loaded;

2) The vapor control system is operating and all vapors displaced in the loading of gasoline to the delivery vessel are vented only to the vapor control system;

3) There is no liquid drainage from the loading device when it is not in use;

4) All loading and vapor return lines are equipped with fittings which are vapor tight; and

5) The delivery vessel displays the appropriate sticker pursuant to the requirements of Section 219.584(b) or (d) of this Part; or, if the terminal is driver-loaded, the terminal owner or operator shall be deemed to be in compliance with this Section when terminal access authorization is limited to those owners and/or operators of delivery vessels who have provided a current certification as required by Section 219.584(c)(3) of this Part.

~~b)~~ ~~Bulk gasoline terminals were required to take certain actions to achieve compliance which are summarized in 35 Ill. Adm. Code 215, Appendix C.~~

~~c~~b) The operator of a bulk gasoline terminal shall:

1) Operate the terminal vapor collection system and gasoline loading equipment in a manner that prevents:

A) Gauge pressure from exceeding 18 inches of water and vacuum from exceeding 6 inches of water as measured as close as possible to the vapor hose connection; and

B) A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in EPA 450/2-78-051 Appendix B, incorporated by reference in Section 219.112 of this Part; and

C) Avoidable leaks of liquid during loading or unloading operations.

2) Provide a pressure tap or equivalent on the terminal vapor collection system in order to allow the determination of compliance with Section 219.582(d)(1)(A) of this Part; and

3) Within 15 business days after discovery of the leak by the owner, operator, or the Agency repair and retest a vapor collection system which exceeds the limits of subsection (c)(1)(A) or (B) of this Section.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.583 Gasoline Dispensing Facilities - Storage Tank Filling Operations

a) Subject to subsection (b) below, no person shall cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank at a gasoline dispensing ~~facility~~operation unless:

1) The tank is equipped with a submerged loading pipe; and

2) The vapors displaced from the storage tank during filling are processed by a vapor control system that includes one or more of the following:

A) A vapor collection system that meets the requirements of subsection (d)(4) below; or

B) A refrigeration-condensation system or any other system approved by the Agency and approved by the USEPA as a SIP revision, that recovers at least 90 percent by weight of all vaporized organic material from the equipment being controlled; and

C) The delivery vessel displays the appropriate sticker pursuant to the requirements of Section 219.584(b) or (d) of this Part.

b) The requirements of subsection (a)(2) above shall not apply to transfers of gasoline to a stationary storage tank at a gasoline dispensing ~~facility~~operation if:

1) The tank is equipped with a floating roof, or other system of equal or better emission control

as approved by the Agency and approved by the USEPA as a SIP revision;

2) The tank has a capacity of less than 2000 gallons and was in place and operating before January 1, 1979; or

3) The tank has a capacity of less than 575 gallons.

c) Subject to subsection (b) above, each owner of a gasoline dispensing ~~facility~~operation shall:

1) Install all control systems and make all process modifications required by subsection (a) above;

2) Provide instructions to the operator of the gasoline dispensing ~~facility~~operation describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system; and

3) Repair, replace or modify any worn out or malfunctioning component or element of design.

d) Subject to subsection (b) above, each operator of a gasoline dispensing ~~facility~~ operation shall:

1) Maintain and operate each vapor control system in accordance with the owner's instructions;

2) Promptly notify the owner of any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system;

3) Maintain gauges, meters or other specified testing devices in proper working order;

4) Operate the vapor collection system and delivery vessel unloading points in a manner that prevents:

A) A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in EPA 450/2-78-051 Appendix B, and

B) Avoidable leaks of liquid during the filling of storage tanks; and

5) Within 15 business days after discovery of the leak by the owner, operator, or the Agency, repair

and retest a vapor collection system which exceeds the limits of subsection (d)(4)(A) above.

~~e) Gasoline dispensing facilities were required to take certain actions to achieve compliance which are summarized in 35 Ill. Adm. Code 215.Appendix C.~~

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.584 Gasoline Delivery Vessels

a) Any delivery vessel equipped for vapor control by use of vapor collection equipment:

1) Shall have a vapor space connection that is equipped with fittings which are vapor tight;

2) Shall have its hatches closed at all times during loading or unloading operations, unless a top loading vapor recovery system is used;

3) Shall not internally exceed a gauge pressure of 18 inches of water or a vacuum of 6 inches of water;

4) Shall be designed and maintained to be vapor tight at all times during normal operations;

5) Shall not be refilled in Illinois at other than:

A) A bulk gasoline terminal that complies with the requirements of Section 219.582 <u>of this Part</u> or

B) A bulk gasoline plant that complies with the requirements of Section 219.581(b) <u>of this Part</u>.

6) Shall be tested annually in accordance with Method 27, 40 CFR 60, Appendix A, incorporated by reference in Section 219.105 <u>of this Part</u>. Each vessel must be repaired and retested within 15 business days after discovery of the leak by the owner, operator, or the Agency, when it fails to sustain:

A) A pressure drop of no more than three inches of water in five minutes; and

B) A vacuum drop of no more than three inches of water in five minutes.

b) Any delivery vessel meeting the requirements of subsection (a) of this Section shall have a sticker affixed to the tank adjacent to the tank manufacturer's data plate which contains the tester's name, the tank identification number and the date of the test. The sticker shall be in a form prescribed by the Agency, and, for those delivery vessels subject to 35 Ill. Adm. Code 215 as of December 31, 1987 shall have been displayed no later than December 31, 1987.

c) The owner or operator of a delivery vessel shall:

1) Maintain copies of any test required under subsection (a)(6) of this Section for a period of 3 years;

2) Provide copies of these tests to the Agency upon request; and

3) Provide annual test result certification to bulk gasoline plants and terminals where the delivery vessel is loaded.

d) Any delivery vessel which has undergone and passed a test in another state which has a USEPA-approved leak testing and certification program will satisfy the requirements of subsection (a) of this Section. Delivery vessels must display a sticker, decal or stencil approved by the state where tested or comply with the requirements of subsection (b) of this Section. All such stickers, decals or stencils shall have been displayed no later than December 31, 1987, for delivery vessels subject to 35 Ill. Adm. Code 215 as of December 31, 1987.

(Source: Amended at ___ Ill. Reg. ______, effective _______________ __________)

Section 219.585 Gasoline Volatility Standards

a) No person shall sell, offer for sale, dispense, supply, offer for supply, or transport for use in Illinois gasoline whose Reid vapor pressure exceeds the applicable limitations set forth in subsections (b) and (c) of this Section during the regulatory control periods, which shall be ~~July~~ May 1 to ~~August 31~~ September 15 for retail outlets, wholesale purchaser-consumer facilities, and all other facilities.

b) The Reid vapor pressure of gasoline, a measure of its volatility, shall not exceed 9.~~5~~0 psi (~~65.5~~62.07 kPa) during the regulatory control period in 1990 and each year thereafter.

c) The Reid vapor pressure of ethanol blend gasolines shall not exceed the limitations for gasoline set forth in subsection (b) of this Section by more than 1.0 psi (6.9 kPa). Notwithstanding this limitation, blenders of ethanol blend gasolines whose Reid vapor pressure is less than 1.0 psi above the base stock gasoline immediately after blending with ethanol are prohibited from adding butane or any product that will increase the Reid vapor pressure of the blended gasoline.

d) All sampling of gasoline required pursuant to the provisions of this Section shall be conducted by one or more of the following approved methods or procedures which are incorporated by reference in Section 215.105.

1) For manual sampling, ASTM D4057;

2) For automatic sampling, ASTM D4177;

3) Sampling procedures for Fuel Volatility, 40 CFR 80 Appendix D.

e) The Reid vapor pressure of gasoline shall be measured in accordance with either test method ASTM D323 or a modification of ASTM D323 known as the "dry method" as set forth in 40 CFR 80, Appendix E, incorporated by reference in 35 Ill. Adm. Code ~~215~~219.~~105~~112 of this Part. For gasoline - oxygenate blends which contain water-extractable oxygenates, the Reid vapor pressure shall be measured using the dry method test.

f) The ethanol content of ethanol blend gasolines shall be determined by use of one of the approved testing methodologies specified in 40 CFR 80, Appendix F, incorporated by reference in 35 Ill. Adm. Code ~~215~~219.~~105~~112 of this Part.

g) Any alternate to the sampling or testing methods or procedures contained in subsections (d), (e), and (f) of this Section must be approved by the Agency, which shall consider data comparing the performance of the proposed alternative to the performance of one or more approved test methods or procedures. Such data shall accompany any request for Agency approval of any alternate test procedure. If the Agency determines that such data demonstrates that the proposed alternative will achieve results equivalent to the approved test methods or will achieve results equivalent to the approved test methods or procedures, the Agency shall approve the proposed alternative.

h) Each refiner or supplier that distributes gasoline or ethanol blends shall:

1) During the regulatory control period, state that the Reid vapor pressure of all gasoline or ethanol blends leaving the refinery or distribution facility for use in Illinois complies with the Reid vapor pressure limitations set forth in 35 Ill. Adm. Code ~~215~~219.585(b) and (c) of this Part. Any ~~facility~~source receiving this gasoline shall be provided with a copy of an invoice, bill of lading, or other documentation used in normal business practice stating that the Reid vapor pressure of the gasoline complies with the State Reid vapor pressure standard.

2) Maintain records for a period of one year on the Reid vapor pressure, quantity shipped and date of delivery of any gasoline or ethanol blends leaving the refinery or distribution facility for use in Illinois. The Agency shall be provided with copies of such records if requested.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.586 Gasoline Dispensing ~~Facilities~~Operations - Motor Vehicle Fueling Operations

a) For the purposes of this ~~s~~Section, the following definitions apply.

1) Average ~~M~~monthly ~~V~~volume~~:~~ means t~~T~~he amount of motor vehicle fuel dispensed per month from a gasoline dispensing ~~facility~~ operation based upon a monthly average for the 2-year period of November, 1990 through October, 1992 or, if not available, the monthly average for the most recent twelve calendar months. Monthly averages are to include only those months when the ~~facility~~ operation was operating.

2) Certified~~:~~ means a~~A~~ny vapor collection and control system which has been tested and approved by CARB as having a vapor recovery and removal efficiency of at least 95% (by weight) shall constitute a certified vapor collection and control system. CARB testing and approval is pursuant to the CARB manual, ~~hereby~~ incorporated by reference at

219.112 of this Part ~~(California Air Resources Board, Compliance Division, Compliance Assistance Program: Facilities Phase I & II (October 1988, rev. March 1991 CARB Manual). This incorporation includes no later additions or amendments~~.

3) Completion of installation~~:~~ means t~~T~~he successful passing of one or more of the following tests applicable to the installed vapor collection and control system: Dynamic Backpressure Test, Pressure Decay/Leak Test, and Liquid Blockage Test, ~~(United States Environmental Protection Agency, Washington D.C., EPA-450/3-91- 002b). These tests are hereby~~ incorporated by reference at 219.112 of this Part. ~~This incorporation includes no later additions or amendments.)~~

4) Constructed~~:~~ means f~~F~~abricated, erected or installed; refers to any facility, emission source or air pollution control equipment.

5) CARB~~:~~ means California Air Resources Board, P.O. Box 2815, Sacramento, CA 95812.

6) Employee~~:~~ means a~~A~~ny person who performs work for an employer.

7) ~~Facility~~Operation~~:~~ means a~~A~~ny building, structure, installation, operation or combination thereof located on contiguous properties and under common ownership that provides for the dispensing of motor vehicle fuel.

8) Gasoline ~~D~~dispensing ~~Facility~~operation~~:~~ means a~~A~~ny ~~facility~~ operation where motor vehicle fuel is dispensed into motor vehicle fuel tanks or portable containers from a storage tank with a capacity of 2176 liters (575 gallons) or more.

9) Modification~~:~~ means a~~A~~ny change, removal or addition, other than an identical replacement, of any component contained within the vapor collection and control system.

10) Motor ~~V~~vehicle~~:~~ means a~~A~~ny self-propelled vehicle powered by an internal combustion engine including, but not limited to, automobiles and trucks. Specifically excluded from this definition are watercraft and aircraft.

11) Motor ~~V~~vehicle ~~F~~fuel~~:~~ means a~~A~~ny petroleum distillate having a Reid vapor pressure of more

than 27.6 kilopascals (kPa) (four pounds per square inch) and which is used to power motor vehicles.

12) Owner or ~~O~~operator~~:~~ means a~~A~~ny person who owns, leases, operates, manages, supervises or controls (directly or indirectly) a gasoline dispensing ~~facility~~operation.

13) Reid ~~V~~vapor ~~P~~pressure~~:~~ f~~F~~or gasoline, ~~it~~ shall be measured in accordance with either the method ASTM D323 or a modification of ASTM D323 known as the "dry method" as set forth in 40 CFR 80, Appendix E, incorporated by references in 35 Ill. Adm. Code ~~215.105~~219.112 of this Part.

14) Vapor ~~C~~collection and ~~C~~control ~~S~~system~~:~~ means a~~A~~ny system certified by CARB which limits the discharge to the atmosphere of motor vehicle fuel vapors displaced during the dispensing of motor vehicle fuel into motor vehicle fuel tanks.

b) The provisions of subsection (c) below shall apply to any gasoline dispensing ~~facility~~operation which dispenses an average monthly volume of more than 10,000 gallons of motor vehicle fuel per month. Compliance shall be demonstrated in accordance with the schedule provided in subsection (d) below.

c) No owner or operator of a gasoline dispensing ~~facility~~ operation subject to the requirements of subsection (b) above shall cause or allow the dispensing of motor vehicle fuel at any time from a motor fuel dispenser unless the dispenser is equipped with and utilizes a vapor collection and control system which is properly installed and operated as provided below:

1) Any vapor collection and control system installed, used or maintained has been CARB certified.

2) Any vapor collection and control system utilized is maintained in accordance with the manufacturer's specifications and the certification.

3) No elements or components of a vapor collection and control system are modified, removed, replaced or otherwise rendered inoperative in a manner which prevents the system from performing in accordance with its certification and design specifications.

4) A vapor collection and control system has no defective, malfunctioning or missing components.

5) Operators and employees of the gasoline dispensing ~~facility~~operation are trained and instructed in the proper operation and maintenance of a vapor collection and control system.

6) Instructions are posted in a conspicuous and visible place within the motor fuel dispensing area and describe the proper method of dispensing motor vehicle fuel with the use of the vapor collection and control system.

d) In conjunction with the compliance provisions of Section 219.105 of this Part, ~~facilities~~operations subject to the requirements of subsection (c) above shall demonstrate compliance according to the following:

1) ~~Facilities~~Operations that commenced construction after November 1, 1990, must comply by May 1, 1993.

[BOARD NOTE: The Board adopted an emergency rule in R93-12, extending the compliance date in Section 219.586(d)(1)from May 1, 1993 to October 15, 1993. This emergency rule became effective on May 24, 1993 and will expire on October 21, 1993.]

2) ~~Facilities~~Operations that commenced construction before November 1, 1990, and dispense an average monthly volume of more than 100,000 gallons of motor fuel per month must comply by November 1, 1993.

3) ~~Facilities~~Operations that commenced construction before November 1, 1990, and dispense an average monthly volume of less than 100,000 gallons of motor fuel per month must comply by November 1, 1994.

4) New ~~facilities~~operations constructed after the adoption of this Section shall comply with the requirements of subsection (c) above upon startup of the ~~facility~~operation.

5) Existing ~~facilities~~operations previously exempted from but which become subject to the requirements of subsection (c) above after May 1, 1993 shall comply with the requirements of subsection (c)

above within six calendar months of the date from which the ~~facility~~operation becomes subject.

e) Any gasoline dispensing ~~facility~~operation that becomes subject to the provisions of subsection (c) above at any time shall remain subject to the provisions of subsection (c) above at all times.

f) Upon request by the Agency, the owner or operator of a gasoline dispensing ~~facility~~operation which claims to be exempt from the requirements of this Section shall submit records to the Agency within 30 calendar days from the date of the request which demonstrate that the gasoline dispensing ~~facility~~operation is in fact exempt.

g) Recordkeeping and reporting:

1) Any gasoline dispensing ~~facility~~operation subject to subsection (c) above shall retain at the ~~facility~~operation copies of the registration information required at subsection (h) below.

2) Records and reports required pursuant to this subsection shall be made available to the Agency upon request. Records and reports which shall be maintained by the owner or operator of the gasoline dispensing ~~facility~~ operation shall clearly demonstrate:

A) That a certified vapor collection and control system has been installed and tested to verify its performance according to its specifications.

B) That proper maintenance has been conducted in accordance with the manufacturer's specifications and requirements.

C) The time period and duration of all malfunctions of the vapor collection and control system.

D) The motor vehicle fuel throughput of the ~~facility~~operation for each calendar month of the previous year.

E) That operators and employees are trained and instructed in the proper operation and maintenance of the vapor collection and control system and informed as to the potential penalties associated with the violation of any provision of this Section.

h) Any gasoline dispensing ~~facility~~operation subject to subsection (c) above shall be exempt from the permit requirements specified under 35 Ill. Adm. Code 201.142, 201.143 and 201.144 for its vapor collection and control systems, provided that:

1) Upon the installation of a vapor collection and control system, the owner or operator of the gasoline dispensing ~~facility~~operation submits to the Agency a registration which provides at minimum the ~~facility~~operation name and address, signature of the owner or operator, the CARB Executive Order Number for the vapor collection and control system to be utilized, the number of nozzles (excluding diesel or kerosene) used for motor vehicle refueling, the monthly average volume of motor vehicle fuel dispensed, the location (including contact person's name, address, and telephone number) of records and reports required by this Section, and the date of completion of installation of the vapor collection and control system.

2) The registration is submitted to the Agency within 30 days of completion of such installation.

3) A copy of the registration information is maintained at the gasoline dispensing ~~facility~~operation.

4) Upon the modification of an existing vapor collection and control system, the owner or operator of the gasoline dispensing ~~facility~~ operation submits to the Agency a registration that details the changes to the information provided in the previous registration of the vapor collection and control system and which includes the signature of the owner or operator. The registration must be submitted to the Agency within 30 days of completion of such modification.

(Source: Amended at _____ Ill. Reg. ________, effective October 21, 1993)

SUBPART Z: DRY CLEANERS

Section 219.601 Perchloroethylene Dry Cleaners

The owner or operator of a dry cleaning ~~facility~~ operation which uses perchloroethylene shall:

a) Vent the entire dryer exhaust through a properly designed and functioning carbon adsorption system or equally effective control device; and

b) Emit no more than 100 ppmv of VOM from the dryer control device before dilution, or achieve a 90 percent average reduction before dilution; and

c) Immediately repair all components found to be leaking liquid VOM; and

d) Cook or treat all diatomaceous earth filters so that the residue contains 25 kg (55 lb) or less of volatile organic material per 100 kg (220 lb) of wet waste material; and

e) Reduce the vVOM from all solvent stills to 60 kg (132 lb) or less per 100 kg (220 lb) of wet waste material; and

f) Drain all filtration cartridges in the filter housing or other sealed container for at least 24 hours before discarding the cartridges; and

g) Dry all drained filtration cartridges in equipment connected to an emission reduction system or in a manner that will eliminate emission of volatile organic material to the atmosphere.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.602 Exemptions

The provisions of Section 219.601 are not applicable to perchloroethylene dry cleaning operations which are coin-operated or to dry cleaning ~~facilities~~operations consuming less than 30 gal per month (360 gal per year) of perchloroethylene.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.603 Leaks

The presence of leaks shall be determined for purposes of Section 219.601(c) of this Part by a visual inspection of the following: hose connections, unions, couplings and valves; machine door gaskets and seatings; filter head gasket and seating; pumps; base tanks and storage containers; water separators; filter sludge recovery; distillation unit; diverter valves; saturated lint from lint baskets; and cartridge filters.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.604 Compliance Dates (Repealed)

~~Every owner or operator of an emission source previously subject to 35 Ill. Adm. Code 215, Subpart Z, shall have complied with its standards and limitations in accordance with the applicable dates set forth in 35 Ill. Adm. Code 215.604.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.605 Compliance Plan (Repealed)

~~a)~~ ~~The owner or operator of an emission source subject to this Subpart shall have submitted to the Agency a compliance plan, pursuant to 35 Ill. Adm. Code 201, Subpart H, including a project completion schedule where applicable, no later than, for Section 219.601(a) and (b), April 21, 1983.~~

~~b)~~ ~~Unless the submitted compliance plan or schedule was disapproved by the Agency, the owner or operator of a facility or emission source may operate the emission source according to the plan and schedule as submitted.~~

~~c)~~ ~~The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201, Subpart H, including specific interim dates as required in 35 Ill. Adm. Code 201.242.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.606 Exception to Compliance Plan (Repealed)

~~Coin-operated dry cleaning operations and dry cleaning facilities consuming less than 30 gal per month (360 gal per year) of perchloroethylene are not required to submit or obtain an Agency approved compliance plan or project completion schedule.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

Section 219.608 Operating Practices for Petroleum Solvent Dry Cleaners

In order to minimize fugitive solvent emissions, the owner or operator of a petroleum solvent dry cleaning ~~facility~~source shall employ good housekeeping practices including the following:

a) General Housekeeping Requirements

1) Equipment containing solvent (washers, dryers, extractors and filters) shall remain closed at all times except during load transfer and maintenance. Lint filter and button trap covers shall remain closed except when solvent-laden material is being removed.

2) Cans, buckets, barrels and other containers of solvent or of solvent-laden material shall be covered except when in use.

3) Solvent-laden material shall be exposed to the atmosphere only for the minimum time necessary for load transfer.

b) Installation and operation of equipment:

1) All cartridge filters shall be enclosed and operated in accordance with the procedures and specifications recommended by the manufacturer for the cartridge filter. After installation, the cartridges shall be inspected, monitored and maintained in accordance with the manufacturer's recommendations; and

2) Vents on containers for new solvent and for solvent-containing waste shall be constructed and maintained so as to minimize solvent vapor emissions. Criteria for the minimization of solvent vapor emissions include the elimination of solvent buckets and barrels standing open to the atmosphere, and the repair of gaskets and seals that expose solvent-rich environments to the atmosphere, to be determined through visual inspection.

(Source: Amended at ___ Ill. Reg. ______, effective ____________ __________)

Section 219.609 Program for Inspection and Repair of Leaks

a) The owner or operator of a petroleum solvent dry cleaning ~~facility~~source shall conduct the following visual inspections on a weekly basis:

1) Washers, dryers, solvent filters, settling tanks, vacuum stills and containers and conveyors of petroleum solvent shall be inspected for visible leaks of solvent liquid.

2) Pipes, hoses and fittings shall be inspected for active dripping or dampness.

3) Pumps and filters shall be inspected for leaks around seals and access covers.

4) Gaskets and seals shall be inspected for wear and defects.

b) Leaks of petroleum solvent liquid and vapors shall be repaired within three working days of detection, unless necessary replacement parts are not on site.

1) If necessary, repair parts shall be ordered within three working days of detection of the leak.

2) The leak shall be repaired within three days of delivery of necessary parts.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.610 Testing and Monitoring

a) Compliance with Sections 219.607(b)(2), 219.608 and 219.609 <u>of this Part</u> shall be determined by visual inspection; and

b) Compliance with Sections 219.607(a)(2) and (b)(1) <u>of this Part</u> shall be determined by methods described in EPA-450/3-82-009 (1982) incorporated by reference in Section 219.112 <u>of this Part</u>.

c) If a control device is used to comply with Section 219.607(a)(1) <u>of this Part</u>, then compliance shall be determined using 40 CFR 60 Appendix A, Method 25 (1984) incorporated by reference in Section 219.112 <u>of this Part</u>.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.611 Exemption for Petroleum Solvent Dry Cleaners

The provisions of Sections 219.607 through 219.610 of this Part shall not apply to petroleum solvent dry cleaning ~~facilities~~ sources whose emissions of volatile organic material do not exceed 91 Mg (100 tons) per year in the absence of pollution control equipment or whose emissions of VOM, as limited by the operating permit, will not exceed 91 Mg (100 tons) per year in the absence of pollution control equipment.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.612 Compliance Dates (Repealed)

~~Owners and operators of emission sources subject to 35 Ill. Adm. Code 215.607 through 215.609 as of December 31, 1987 shall have complied with the requirements set forth therein no later than December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.613 Compliance Plan (Repealed)

~~a)~~ ~~The owner or operator of an emission source formerly subject to 35 Ill. Adm. Code 215.610(a) as of May 31, 1987 shall have submitted to the Agency a compliance plan, including a project completion schedule where applicable, no later than May 31, 1987.~~

~~b)~~ ~~The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART AA: PAINT AND INK MANUFACTURING

Section 219.620 Applicability

a) This ~~s~~Subpart shall apply to all paint and ink manufacturing ~~plants~~sources which:

1) Include process emission ~~sources~~units not subject to Subparts B, E, F (excluding Section 219.204(l) of this Part), H (excluding Section 219.405 of this Part), Q, R, S, T (excluding Section 219.486 of this Part), V, X, Y, ~~or~~ Z or BB of this Part; and which as a group both:

A) ~~h~~Have maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

B) ~~a~~Are not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or a SIP revision, or

2) Produce more than 7,570,820 l (2,000,000 gal) per calendar year of paint or ink formulations, which contain less than 10 percent (by weight) water, and ink formulations not containing as the primary solvents water, Magie oil or glycol.

b) For the purposes of this Subpart, uncontrolled VOM emissions are the emissions of VOM which would result if no air pollution control equipment were used.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.621 Exemption for Waterbase Material and Heatset-Offset Ink

The requirements of Sections 219.624 and 219.625 and Section 219.628(a) of this Part shall not apply to equipment while it is being used to produce either:

a) ~~p~~Paint or ink formulations which contain 10 percent or more (by weight) water, or

b) ~~i~~Inks containing Magie oil and glycol as the primary solvent.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.623 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.624 Open-~~t~~Top Mills, Tanks, Vats or Vessels

No person shall operate an open-top mill, tank, vat or vessel with a volume of more than 45 l (12 gal) for the production of paint or ink unless:

a) The mill, tank, vat or vessel is equipped with a cover which completely covers the mill, tank, vat or vessel opening except for an opening no larger than necessary to allow for safe clearance for a mixer shaft. Such cover shall extend at least 1.27 cm (0.5 in.) beyond the outer rim of the opening or be attached to the rim.

b) The cover remains closed except when production, sampling, maintenance or inspection procedures require access.

c) The cover is maintained in good condition such that, when in place, it maintains contact with the rim of the opening for at least 90 percent of the circumference of the rim.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.628 Leaks

The owner or operator of a paint or ink manufacturing ~~plant~~source shall, for the purpose of detecting leaks, conduct an equipment monitoring program as set forth below:

a) Each pump shall be checked by visual inspection each calendar week for indications of leaks, that is, liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, the pump shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.

b) Any pump, valve, pressure relief valve, sampling connection, open-ended valve and flange or connector containing a fluid which is at least 10 percent VOM by weight which appears to be leaking on the basis of sight, smell or sound shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.

c) A weather proof, readily visible tag, in bright colors such as red or yellow, bearing an identification number and the date on which the leak was detected shall be attached to leaking equipment. The tag may be removed upon repair, that is, when the equipment is adjusted or otherwise altered to allow operation without leaking.

d) When a leak is detected, the owner or operator shall record the date of detection and repair and the record shall be retained at the ~~plant~~source for at least two years from the date of each detection or each repair attempt. The record shall be made available to any person upon verbal or written request during business hours.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.636 Compliance Schedule

Every owner or operator of a~~n emission~~ source subject to the control requirements of this Subpart shall comply with the requirements thereof on and after a date consistent with Section 219.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.637 Recordkeeping and Reporting

a) Upon request by the Agency, the owner or operator of a~~n~~ ~~emission~~ source which claims to be exempt from the requirements of this Subpart shall submit records to the Agency within 30 calendar days from the date of the request which document that the ~~emission~~ source is in fact exempt from this Subpart. These records shall include (but are not limited to) the percent water (by weight) in the paint or ink being produced and the quantity of Magie oil, glycol and other solvents in the ink being produced.

b) Every owner or operator of a~~n emission~~ source which is subject to the requirements of this Subpart shall maintain all records necessary to demonstrate compliance with those requirements at the ~~facility~~source for three years.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART BB: POLYSTYRENE PLANTS

Section ~~219.875~~219.640 Applicability ~~of Subpart BB~~

The provisions of this Subpart shall apply to polystyrene plants:

a) Which use continuous processes to manufacture polystyrene - polybutadiene co-polymer; and

b) Which fall within Standard Industrial Classification Group No. 282, Industry No. 2821, except that the manufacture of polystyrene resins need not be the primary manufacturing process at the plant.

(Source: Renumbered from Section 219.875 and amended at ____ Ill. Reg. _____, effective ________________________)

Section ~~219.877~~219.642 Emissions Limitation at Polystyrene Plants

No person shall cause or allow the emissions of VOM from the material recovery section to exceed 0.12 kg of VOM per 1000 kg of polystyrene resin produced.

(Source: Renumbered from Section 219.877 at ___ Ill. Reg. _____, effective ____________________________)

Section ~~219.886~~219.644 Emissions Testing

a) Upon a reasonable request by the Agency, the owner or operator of a polystyrene plant subject to this Subpart shall at his own expense demonstrate compliance by use of the following method: 40 CFR 60, Appendix A, Method 25 - Determination of Total Gaseous Non-Methane Organic Emissions as Carbon (1984), incorporated by reference in Section 219.112 of this Part.

b) A person planning to conduct a VOM emissions test to demonstrate compliance with this Subpart shall notify the Agency of that intent not less than 30 days before the planned initiation of the tests so the Agency may observe the test.

(Source: Renumbered from Section 219.886 and amended at ____ Ill. Reg. _____, effective ________________________)

Section 219.875 Applicability of Subpart BB (Renumbered)

(Source: Renumbered to Section 219.640 at ____ Ill. Reg. ____ effective ______________)

Section 219.877 Emissions Limitation at Polystyrene Plants (Renumbered)

(Source: Renumbered to Section 219.642 at ____ Ill. Reg. ____ effective ______________________________)

Section 219.879 Compliance Date (Repealed)

~~Every owner and operator of an emission source subject to 35 Ill. Adm. Code 215, Subpart BB, as of December 31, 1987, shall have complied with its standards and limitations by December 31, 1987.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

Section 219.881 Compliance Plan (Repealed)

~~a)~~ ~~The owner or operator of an emission source formerly subject to the requirements of 35 Ill. Adm. Code 215 Subpart BB shall have submitted to the Agency a compliance plan in accordance with 35 Ill. Adm. Code 201, Subpart H, including a project completion schedule on or before December 1, 1987.~~

~~b)~~ ~~Unless the submitted compliance plan or schedule was disapproved by the Agency, the owner or operator of a facility or emission source subject to this Subpart may operate the emission source according to the plan and schedule as submitted.~~

~~c)~~ ~~The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201, Subpart H and Section 219.883.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

Section 219.883 Special Requirements for Compliance Plan (Repealed)

~~For sources subject to this Subpart, an approvable compliance plan shall include:~~

~~a)~~ ~~A description of each process which is subject to an emissions limitation;~~

~~b)~~ ~~Quantification of the emissions from each process;~~

~~c)~~ ~~A description of the procedures and methods used to determine the emissions of VOM;~~

~~d)~~ ~~A description of the methods which will be used to demonstrate compliance with the allowable plantwide emission limitation (Section 215.877), including a method of inventory, recordkeeping and emission calculation or measurement.~~

(Source: Repealed at ___ Ill. Reg. ______, effective ____________ __________)

Section 219.886 Emissions Testing (Renumbered)

(Source: Renumbered to Section 219.644 at ____ Ill. Reg. _____, effective ______________________________)

SUBPART PP: MISCELLANEOUS FABRICATED PRODUCT MANUFACTURING PROCESSES

Section 219.920 Applicability

a) The requirements of this Subpart shall apply to a ~~plant's~~source's miscellaneous fabricated product manufacturing process emission ~~sources~~units which are not included within any of the ~~source~~ categories specified in Subparts B, E, F, H, Q, R, S, T, V, X, Y, ~~or~~ Z or BB if the ~~plant~~source is subject to this Subpart. A ~~plant~~source is subject to this Subpart if it contains process emission ~~sources~~ units, not regulated by Subparts B, E, F (excluding Section 219.204(l) of this Part), H (excluding Section 219.405 of this Part), Q, R, S, T, (excluding Section 219.486 of this Part), V, X, Y, ~~or~~ Z or BB of this Part; which as a group both:

1) ~~h~~Have maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

2) ~~a~~Are not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or a SIP revision.

b) If a ~~plant~~source ceases to fulfill the criteria of subsection (a) above, the requirements of this Subpart shall continue to apply to a miscellaneous fabricated products manufacturing process emission ~~source~~unit which was ever subject to the control requirements of Section 219.926 of this Part.

c) No limits under this Subpart shall apply to emission ~~sources~~units with emissions of VOM to the atmosphere less than or equal to 0.91 Mg (1.0 ton) per calendar year if the total emissions from such ~~sources~~ emission units not complying with Section 219.926 of this Part does not exceed 4.5/Mg (5.0 tons) per calendar year.

d) For the purposes of this Subpart, an emission ~~source~~unit shall be considered regulated by a Subpart if it is subject to the limits of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. ~~its emissions are below the applicability cutoff level or if the source is covered by an exemption.~~

e) For the purposes of this Subpart, uncontrolled VOM emissions are the emissions of VOM which would result if no air pollution control equipment were used.

f) The control requirments in Subpart PP shall not apply to sewage treatment plants; vegetable oil extraction and processing; coke ovens (including by-product recovery plants); fuel combustion units; bakeries; barge loading facilities; jet engine test cells; production of polystyrene foam insulation board including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source, but not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin; production of polystyrene foam packaging not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin and not including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source; and iron and steel production.

(Source: Amended at ___ Ill. Reg. ______, effective ________________________)

Section 219.923 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ________________________)

Section 219.926 Control Requirements

Every owner or operator of ~~an emission source~~miscellaneous fabricated product manufacturing process emission unit subject to this Subpart shall comply with the requirements of subsection (a), (b) or (c) of this Section:

a) Emission capture and control techniques which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or

(Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 219.112, e.g., a coating line, a printing line, a process unit, a wastewater system, or other equipment, or is otherwise any part or activity at a source.)

b) For coating lines, the daily-weighted average VOM content shall not exceed 0.42 kg VOM/l (3.5 lbs VOM/gal) of coating as applied (minus water and any compounds which are specifically exempted from the definition of VOM) during any day. Owners and operators complying with this Section are not required to comply with Section 219.301 of this Part, or

c) An alternative control plan which has been approved by the Agency and ~~approved by~~ the USEPA in a federally enforceable permit or as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.927 Compliance Schedule

Every owner or operator of an emission ~~source~~unit subject to the control requirements of this Subpart shall comply with the requirements thereof on and after a date consistent with Section 219.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.928 Testing

a) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with Section 219.926 of this Part, the owner or operator of a VOM emission ~~source~~unit subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 219.105 of this Part.

b) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

(Source: Amended at ___ Ill. Reg. ______, effective ____________ __________)

SUBPART QQ: MISCELLANEOUS FORMULATION MANUFACTURING PROCESSES

Section 219.940 Applicability

a) The requirements of this Subpart shall apply to a ~~plant's~~source's miscellaneous formulation manufacturing process emission ~~sources~~units, which are not included within any of the ~~source~~ categories specified in Subparts B, E, F, H, Q, R, S, T, V, X, Y, ~~or~~ Z or BB of this Part if the ~~plant~~source is subject to this Subpart. A ~~plant~~source is subject to this Subpart if it contains process emission ~~sources~~units, not regulated by Subparts B, E, F (excluding Section 219.204(l) of this Part), H (excluding Section 219.405 of this Part), Q, R, S, T (excluding Section 219.486 of this Part), V, X, Y, ~~or~~ Z or BB of this Part; which as a group both:

1) ~~h~~Have maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

2) ~~a~~Are not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or a SIP revision.

b) If a ~~plant~~source ceases to fulfill the criteria of subsection (a) of this Section, the requirements of this Subpart shall continue to apply to a miscellaneous formulation manufacturing process emission ~~source~~ unit which was ever subject to the control requirements of Section 219.946 of this Part.

c) No limits under this Subpart shall apply to emission ~~sources~~units with emissions of VOM to the atmosphere less than or equal to 2.3 Mg (2.5 tons) per calendar year if the total emissions from such ~~sources~~ emission units not complying with this Section does not exceed 4.5 Mg (5.0 tons) per calendar year.

d) For the purposes of this Subpart, an emission ~~source~~unit shall be considered regulated by a Subpart if it is subject to the limits of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. ~~its emissions are below the applicability cutoff level or if the source is covered by an exemption.~~

e) For the purposes of this Subpart, uncontrolled VOM emissions are the emissions of VOM which would result if no air pollution control equipment were used.

f) The control requirements in Subpart QQ shall not apply to sewage treatment plants; vegetable oil extraction and processing; coke ovens (including by-product recovery plants); fuel combustion units; bakeries; barge loading facilities; jet engine test cells; production of polystyrene foam insulation board including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source, but not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin; production of polystyrene foam packaging not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin and not including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source; and iron and steel production.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.943 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.946 Control Requirements

Every owner or operator of ~~an emission source~~a miscellaneous formulation manufacturing process emission unit subject to this Subpart shall comply with the requirements of subsection (a) or (b) below.

a) Emission capture and control techniques which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or

(Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 219.112, e.g., a coating line, a printing line, a process unit, a wastewater system, or other equipment, or is otherwise any part or activity at a source.)

b) An alternative control plan which has been approved by the Agency and ~~approved by~~ the USEPA in a federally enforceable permit or as a SIP revision.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.947 Compliance Schedule

Every owner or operator of an emission ~~source~~unit subject to the control requirements of this Subpart shall comply with the requirements thereof on and after a date consistent with Section 219.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.948 Testing

a) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with Section 219.946 of this Part, the owner or operator of a VOM emission ~~source~~unit subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 219.105 of this Part.

b) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

SUBPART RR: MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING PROCESSES

Section 219.960 Applicability

a) The requirements of this Subpart shall apply to a ~~plant's~~source's miscellaneous organic chemical manufacturing process emission ~~sources~~units which are not included within any of the ~~source~~ categories specified in Subparts B, E, F, H, Q, R, S, T, V, X, Y, ~~or~~ Z or BB of this Part, if the ~~plant~~source is subject to this Subpart. A ~~plant~~source is subject to this Subpart if it contains process emission ~~sources~~units, not regulated by Subparts B, E, F (excluding Section 219.204(l) of this Part), H (excluding Section 219.405 of this Part), Q, R, S, T (excluding Section 219.486 of this Part) V, X, Y, ~~or~~ Z or BB of this Part; which as a group both:

1) ~~h~~Have maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

2) ~~a~~Are not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction~~ permit or a SIP revision.

b) If a ~~plant~~source ceases to fulfill the criteria of Subsection (a) of this Section, the requirements of this Subpart shall continue to apply to a miscellaneous organic chemical manufacturing process emission ~~source~~ unit which was ever subject to the control requirements of Section 219.966 of this Part.

c) No limits under this Subpart shall apply to emission ~~sources~~units with emissions of VOM to the atmosphere less than or equal to 0.91 Mg (1.0 ton) per calendar year if the total emissions from such ~~sources~~ emission units not complying with Section 219.966 of this Part does not exceed 4.5 Mg (5.0 tons) per calendar year.

d) For the purposes of this Subpart, an emission ~~source~~ unit shall be considered regulated by a Subpart if it is subject to the limits of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. ~~its emissions are below the applicability cutoff level or if the source is covered by an exemption.~~

e) For the purposes of this Subpart, uncontrolled VOM emissions are the emissions of VOM which would result if no air pollution control equipment were used.

f) The control requirements in Subpart RR shall not apply to sewage treatment plants; vegetable oil extraction and processing; coke ovens (including by-product recovery plants); fuel combustion units; bakeries; barge loading facilities; jet engine test cells; production of polystyrene foam insulation board including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source, but not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin; production of polystyrene foam packaging not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin and not including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the source; and iron and steel production.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.963 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.966 Control Requirements

Every owner or operator of an ~~emission source~~miscellaneous organic chemical manufacturing process emission unit, subject to this Subpart shall comply with the requirements of subsection (a), ~~or~~ (b), or (c) below.

a) Emission capture and control techniques which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or

(Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 219.112, e.g., a coating line, a printing line, a process unit, a wastewater system, or other equipment, or is otherwise any part or activity at a source.)

b) An alternative control plan which has been approved by the Agency and ~~approved by~~ the USEPA in a federally enforceable permit or as a SIP revision.

c) Any leaks from components subject to the control requirements of this Subpart shall be subject to the following control measures by March 15, 1995:

1) Repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found, unless the leaking component cannot be repaired until the next process unit shutdown, in which case the leaking component must be repaired before the unit is restarted.

2) For any leak which cannot be readily repaired within one hour after detection, the following records, as set forth in this subsection, shall be kept. These records shall be maintained by the owner or operator for a minimum of two years after the date on which they are made. Copies of the records shall be made available to the Agency or USEPA upon verbal or written request.

A) The name and identification of the leaking component;

B) The date and time the leak is detected;

C) The action taken to repair the leak; and

D) The date and time the leak is repaired.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.967 Compliance Schedule

Every owner or operator of an emission ~~source~~unit subject to the control requirements of this Subpart shall comply with the requirements of this Subpart on and after a date consistent with Section 219.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.968 Testing

a) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with Section 219.966 of this Part, the owner or operator of a VOM emission ~~source~~unit subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 219.105 of this Part.

b) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

(Source: Amended at ___ Ill. Reg. ______, effective _____________ __________)

SUBPART TT: OTHER EMISSION ~~SOURCES~~ UNITS

Section 219.980 Applicability

a) The requirements of this Subpart shall apply to a ~~plant's~~source's VOM emission ~~sources~~units, which are not included within any of the ~~source~~ categories specified in Subparts B, E, F, H, Q, R, S, T, V, X, Y, Z, AA, BB, PP, QQ, or RR of this Part, or are not exempted from permitting requirements pursuant to 35 Ill. Adm. Code 201.146, if the ~~plant~~source is subject to this Subpart. A ~~plant~~source is subject to this Subpart if it contains process emission ~~sources~~units, not regulated by Subparts B, E, F (excluding Section 219.204(l) of this Part), H (excluding Section 219.405 of this Part), Q, R, S, T, (excluding Section 218.486 of this Part), V, X, Y ~~or~~, Z or BB of this Part, which as a group both:

1) ~~h~~Have maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used, and

2) ~~a~~Are not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable ~~construction or operating~~ permit or a SIP revision.

b) If a ~~plant~~source ceases to fulfill the criteria of subsection (a) of this Section, the requirements of this Subpart shall continue to apply to an emission ~~source~~unit which was ever subject to the control requirements of Section 219.986 of this Part.

c) No limits under this Subpart shall apply to emission ~~sources~~units with emissions of VOM to the atmosphere less than or equal to 2.3 Mg (2.5 tons) per calendar year if the total emissions from such ~~sources~~ emission unit not complying with Section 219.986 of this Part does not exceed 4.5 Mg (5.0 tons) per calendar year.

d) For the purposes of this Subpart, an emission ~~source~~ unit shall be considered regulated by a Subpart if it is subject to the limits of that Subpart. An emission ~~source~~unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. ~~its emissions are below the applicability cutoff level or if the source is covered by an exemption.~~

e) The control requirements in Subpart~~s QQ, RR, SS and~~ TT shall not apply to sewage treatment plants~~,~~; vegetable oil extraction and processing ~~plants,~~; coke ovens (including by-product recovery ~~plants~~)~~,~~; fuel combustion ~~sources,~~units; bakeries~~,~~; barge loading facilities~~,~~; jet engine test cells~~,~~; ~~pharmaceutical manufacturing,~~ production of polystyrene foam insulation board ~~(~~including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the ~~plant~~source~~)~~, but not including blending and preliminary expansion of resin prior to molding where a blowing agent is incorporated into the polystyrene resin by the producer of the resin; production of polystyrene foam packaging ~~(~~not including blending and preliminary expansion of resin prior to molding where blowing agent is incorporated into the polystyrene resin by the producer of the resin; and not including storage and extrusion of scrap where blowing agent is added to the polystyrene resin at the ~~plant~~source)~~,~~; and iron and steel production.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.983 Permit Conditions

No person shall violate any condition in a permit when the condition results in exclusion of the ~~plant~~source or an emission ~~source~~unit from this Subpart.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.986 Control Requirements

Every owner or operator of an emission ~~source~~unit subject to this Subpart shall comply with the requirements of subsection (a), (b), ~~or~~ (c), (d) or (e) below.

a) Emission capture and control equipment which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or

(Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 219.112, e.g., a coating line, a printing line, a process unit, a wastewater system, or other equipment, or is otherwise any part or activity at a source.)

b) For coating lines, the daily-weighted average VOM content shall not exceed 0.42 kg VOM/l (3.5 lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied during any day. Owners and operators complying with this Section are not required to comply with Section 219.301 of this Part, or

c) An alternative control plan which has been approved by the Agency and ~~approved by~~ the USEPA in a federally enforceable permit or as a SIP revision.

d) Non-contact process water cooling towers which are subject to the control requirements of this Subpart shall comply with the following control measures no later than March 15, 1995 or upon initial startup:

1) The owner or operator of a non-contact process water cooling tower shall perform the following actions to control emissions of volatile organic material (VOM) from such a tower:

A) Inspect and monitor such tower to identify leaks of VOM into the water, as further specified in subsection (d)(3) below;

B) When a leak is identified, initiate and carry out steps to identify the specific leaking component or components as soon as practicable, as further specified in subsection (d)(4) below.

C) When a leaking component is identified which:

i) Can be removed from service without disrupting production, remove the component from service;

ii) Cannot be removed from service without disrupting production, undertake repair of the component at the next reasonable opportunity to do so including any period when the component is out of service for scheduled maintenance, as further specified in subsection (d)(4) below;

D) Maintain records of inspection and monitoring activities, identification of leaks and leaking components, elimination and repair of leaks, and operation of equipment as related to these activities, as further specified in subsection (d)(5) below.

2) A VOM leak shall be considered to exist in a non-contact process water cooling water system if the VOM emissions or VOM content exceed background levels as determined by monitoring conducted in accordance with subsection (d)(3)(A) below.

3) The owner or operator of an non-contact process water cooling tower shall carry out an inspection and monitoring program to identify VOM leaks in the cooling water system.

A) The owner or operator of a non-contact process water cooling tower shall submit to the Agency a proposed monitoring program, accompanied by technical justification for the program, including justification for the sampling location(s), parameter(s) selected for measurement, monitoring and inspection frequency, and the criteria used relative to the monitored parameters to determine whether a leak exists as specified in subsection (d)(2) above.

B) This inspection and monitoring program for non-contact process water cooling towers shall include, but shall not be limited to:

i) Monitoring of each such tower with a water flow rate of 25,000 gallons per minute or more at a petroleum refinery at least weekly and monitoring of other towers at least monthly;

ii) Inspection of each such tower at least weekly if monitoring is not performed at least weekly.

C) This inspection and monitoring program shall be carried out in accordance with written procedures which the Agency shall specify as a condition in a federally enforceable operating permit. These procedures shall include the VOM background levels for the cooling tower as established by the owner or operator through monitoring; describe the locations at which samples will be taken; identify the parameter(s) to be measured, the frequency of measurements, and the procedures for monitoring each such tower, that is, taking of samples and other subsequent handling and analyzing of samples; provide the criteria used to determine that a leak exists as specified in subsection (d)(2) above; and describe the records which will be maintained.

D) A non-contact process water cooling tower is exempt from the requirements of subsections (d)(3)(B) and (d)(3)(C) above, if all equipment, where leaks of VOM into cooling water may occur, is operated at a minimum pressure in the cooling water of at least 35 kPa greater than the maximum pressure in the process fluid.

4) The repair of a leak in a non-contact process water cooling tower shall be considered to be completed in an acceptable manner as follows:

A) Efforts to identify and locate the leaking components are initiated as soon as practicable, but in no event later than three days after detection of the leak in the cooling water tower;

B) Leaking components shall be repaired or removed from service as soon as possible but no later than 30 days after the leak in the cooling water tower is detected, unless the leaking components cannot be repaired until the next scheduled shutdown for maintenance.

5) The owner or operator of a non-contact process water cooling tower shall keep records as set forth below in this subsection. These records shall be retained at a readily accessible location at the source and shall be available for inspection and copying by the Agency for at least 3 years:

A) Records of inspection and monitoring activity;

B) Records of each leak identified in such tower, with date, time and nature of observation or measured level of parameter;

C) Records of activity to identify leaking components, with date initiated, summary of components inspected with dates, and method of inspection and observations;

D) Records of activity to remove a leaking component from service or repair a leaking component, with date initiated and completed, description of actions taken and the basis for determining the leak in such tower has been eliminated. If the leaking component is not identified, repaired or eliminated within 30 days of initial identification of a leak in such tower, this report shall include specific reasons why the leak could not be eliminated sooner including all other intervening periods when the process unit was out of service, actions taken to minimize VOM losses prior to elimination of the leak and any actions taken to prevent the recurrence of a leak of this type.

6) The owner or operator of a non-contact process water cooling tower shall submit an annual report to the Agency which provides:

A) The number of leaks identified in each cooling tower;

B) A general description of activity to repair or eliminate leaks which were identified;

C) Identification of each leak which was not repaired in 30 days from the date of identification of a leak in such a tower, with description of the leaks, explanation why the leak was not repaired in 30 days;

D) Identification of any periods when required inspection and monitoring activities were not carried out.

e) Any leaks from components subject to the control requirements of this Subpart shall be subject to the following control measures by March 15, 1995:

1) Repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found, unless the leaking component cannot be repaired until the next process unit shutdown, in which case the leaking component must be repaired before the unit is restarted.

2) For any leak which cannot be readily repaired within one hour after detection, the following records, as set forth below in this subsection, shall be kept. These records shall be maintained by the owner or operator for a minimum of two years after the date on which they are made. Copies of the records shall be made available to the Agency or USEPA upon verbal or written request.

   A) The name and identification of the leaking component;

   B) The date and time the leak is detected;

   C) The action taken to repair the leak; and

   D) The date and time the leak is repaired.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.987 Compliance Schedule

Every owner or operator of an emissions ~~source~~unit which is subject to this Subpart shall comply with the requirements of this Subpart on and after a date consistent with Section 219.106 of this Part.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.988 Testing

a) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with Section 219.986 of this Part, the owner or operator of a VOM emission ~~source~~unit subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 219.105.

b) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

(Source: Amended at ___ Ill. Reg. ______, effective ______________________)

SUBPART UU: RECORDKEEPING AND REPORTING ~~FOR NON-CTG SOURCES~~

Section 219.990 Exempt Emission ~~Sources~~Units

Upon request by the Agency, the owner or operator of an emission unit ~~source~~ which is exempt from the requirements of Subparts PP, QQ, RR, TT or Section 219.208(b) of this Part shall submit records to the Agency within 30 calendar days from the date of the request that document that the emission unit ~~source~~ is exempt from those requirements.

(Source: Amended at ___ Ill. Reg. ______, effective ______________________)

Section 219.991 Subject Emission ~~Sources~~Units

a) Any owner or operator of a VOM emission ~~source~~unit which is subject to the requirements of Subpart PP, QQ, RR or TT and complying by the use of emission capture and control equipment shall comply with the following:

1) By a date consistent with Section 219.106 of this Part, or upon initial start-up of a new emission ~~source~~unit, the owner or operator of the subject VOM emission ~~source~~unit shall demonstrate to the Agency ~~the~~ that the subject emission ~~source~~unit will be in compliance on and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date by submitting to the Agency all calculations and other supporting data, including descriptions and results of any tests the owner or operator may have performed.

2) On and after a date consistent with Section 219.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject VOM ~~emission~~ source shall collect and record all of the following information each day and maintain the information at the ~~facility~~source for a period of three years:

A) Control device monitoring data.

B) A log of operating time for the capture system, control device, monitoring equipment and the associated emission source.

C) A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

3) On and after a date consistent with Section 219.106 <u>of this Part</u>, the owner or operator of a subject VOM ~~emission~~ source shall notify the Agency in the following instances:

A) Any record showing a violation of the requirements of Subpart PP, QQ, RR or TT shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of subsection (b)(1) <u>of this Section</u>. Upon changing the method of compliance with Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of subsection (b) <u>of this Section</u>.

4) <u>Testing</u>

A) When in the opinion of the Agency it is necessary to conduct testing to demonstrate compliance with this Subpart, the owner or operator of a VOM emission source subject to the requirements of this Subpart shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in Section 219.105 <u>of this Part</u>.

B) Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.

b) Any owner or operator of a coating line which is subject to the requirements of Subpart PP or TT and complying by means of the daily-weighted average VOM content limitation shall comply with the following:

1) By a date consistent with Section 219.106 <u>of this Part</u>, or upon initial start-up of a coating line subject to Subpart PP or TT, the owner or operator of the subject coating line shall certify to the Agency that the coating line will be in compliance on and after a date consistent with Section 219.106 <u>of this Part</u>, or on and after the initial start-up date. Such certification shall include:

A) The name and identification number of each coating line which will comply by means of the daily-weighted average VOM content limitation.

B) The name and identification number of each coating as applied on each coating line.

C) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

D) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line.

E) The method by which the owner or operator will create and maintain records each day as required in subsection (b)(2).

F) An example of the format in which the records required in subsection (b)(2) <u>of this Section</u> will be kept.

2) On and after a date consistent with Section 219.106 <u>of this Part</u>, or on and after the initial start-up date, the owner or operator of a subject coating line shall collect and record all of the following information each day for each coating line and maintain the information at the ~~facility~~<u>source</u> for a period of three years:

A) The name and identification number of each coating as applied on each coating line.

B) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

C) The daily-weighted average VOM content of all coatings as applied on each coating line as defined in Section 219.104 <u>of this Part</u>.

3) On and after a date consistent with Section 219.106 <u>of this Part</u>, the owner or operator of a subject coating line shall notify the Agency in the following instances:

A) Any record showing violation of the requirements of Subpart PP or TT shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.

B) At least 30 calendar days before changing the method of compliance with Subpart PP or TT from the use of complying coatings to the use capture systems and control devices, the owner or operator shall comply with all requirements of subsection (a)(1) <u>of this Section</u>. Upon changing the method of compliance with Subpart PP or TT from the use of complying coatings to the use capture systems and control devices, the owner or operator shall comply with all requirements of subsection (a) <u>of this Section</u>.

c) Any owner or operator of a VOM emission source which is subject to the requirements of Subpart PP, QQ, RR or TT and complying by means of an alternative control plan which has been approved by the Agency and approved by the USEPA as a SIP revision shall comply with the recordkeeping and reporting requirements specified in the alternative control plan.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.Appendix A

List of Chemicals Defining Synthetic Organic Chemical and Polymer Manufacturing

CAS No. [a]	Chemical
105-57-7	Acetal
75-07-0	Acetaldehyde
107-89-1	Acetaldol
60-35-5	Acetamide
103-84-4	Acetanilide
64-19-7	Acetic acid
108-24-7	Acetic anhydride
67-64-1	Acetone
75-86-5	Acetone cyanohydrin
75-05-8	Acetonitrile
98-86-2	Acetophenone
75-36-5	Acetyl chloride
74-86-2	Acetylene
107-02-8	Acrolein
79-06-1	Acrylamide
79-10-7	Acrylic acid & esters
107-13-1	Acrylonitrile
124-04-9	Adipic acid
111-69-3	Adiponitrile
(b)	Alkyl naphthalenes
107-18-6	Allyl alcohol
107-05-1	Allyl chloride
1321-11-5	Aminobenzoic acid
111-41-1	Aminoethylethanolamine
123-30-8	p-aminophenol
628-63-7, 123-92-2	Amyl acetates
71-41-0[c]	Amyl alcohols
110-58-7	Amyl amine
543-59-9	Amyl chloride
110-68-7[c]	Amyl mercaptans
1322-06-1	Amyl phenol
62-53-3	Aniline
142-04-1	Aniline hydrochloride
29191-52-4	Anisidine
100-66-3	Anisole
118-92-3	Anthranilic acid
84-65-1	Anthraquinone
100-52-7	Benzaldehyde
55-21-0	Benzamide
71-43-2	Benzene
98-48-6	Benzenedisulfonic acid
98-11-3	Benzenesulfonic acid
134-81-6	Benzil
76-93-7	Benzilic acid

65-85-0	Benzoic acid
119-53-9	Benzoin
100-47-0	Benzonitrile
119-61-9	Benzophenone
98-07-7	Benzotrichloride
98-88-4	Benzoyl chloride
100-51-6	Benzyl alcohol
100-46-9	Benzylamine
120-51-4	Benzyl benzoate
100-44-7	Benzyl chloride
98-87-3	Benzyl dichloride
92-52-4	Biphenyl
80-05-7	Bisphenol A
10-86-1	Bromobenzene
27497-51-4	Bromonaphthalene
106-99-0	Butadiene
106-98-9	1-butene
123-86-4	n-butyl acetate
141-32-2	n-butyl acrylate
71-36-3	n-butyl alcohol
78-92-2	s-butyl alcohol
75-65-0	t-butyl alcohol
109-73-9	n-butylamine
13952-84-6	s-butylamine
75-64-9	t-butylamine
98-73-7	p-tert-butyl benzoic acid
107-88-0	1,3-butylene glycol
123-72-8	n-butyraldehyde
107-92-6	Butyric acid
106-31-0	Butyric anhydride
109-74-0	Butyronitrile
105-60-2	Caprolactam
75-1-50	Carbon disulfide
558-13-4	Carbon tetrabromide
55-23-5	Carbon tetrachloride
9004-35-7	Cellulose acetate
79-11-8	Chloroacetic acid
108-42-9	m-chloroaniline
95-51-2	o-chloroaniline
106-47-8	p-chloroaniline
35913-09-8	Chlorobenzaldehyde
108-90-7	Chlorobenzene
118-91-2, 535-80-8, 74-11-3[c]	Chlorobenzoic acid
2136-81-4, 2136-89-2, 5216-25-1[c]	Chlorobenzotrichloride
1321-03-5	Chlorobenzoyl chloride
75-45-6	Chlorodifluoroethane
25497-29-4	Chlorodifluoromethane

67-66-3	Chloroform
25586-43-0	Chloronaphthalene
88-73-3	o-chloronitrobenzene
100-00-5	p-chloronitrobenzene
25167-80-0	Chlorophenols
126-99-8	Chloroprene
7790-94-5	Chlorosulfonic acid
108-41-8	m-chlorotoluene
95-49-8	o-chlorotoluene
106-43-4	p-chlorotoluene
75-72-9	Chlorotrifluoromethane
108-39-4	m-cresol
95-48-7	o-cresol
106-44-5	p-cresol
1319-77-3	Mixed cresols
1319-77-3	Cresylic acid
4170-30-0	Crotonaldehyde
3724-65-0	Crontonic acid
98-82-8	Cumene
80-15-9	Cumene hydroperoxide
372-09-8	Cyanoacetic acid
506-77-4	Cyanogen chloride
108-80-5	Cyanuric acid
108-77-0	Cyanuric chloride
110-82-7	Cyclohexane
108-93-0	Cyclohexanol
108-94-1	Cyclohexanone
110-83-8	Cyclohexene
108-91-8	Cyclohexylamine
111-78-4	Cyclooctadiene
112-30-1	Decanol
123-42-2	Diacetone alcohol
27576-04-1	Diaminobenzoic acid
95-76-1, 95-82-9, 554-00-7, 608-27-5, 608-31-1, 626-43-7, 27134-27-6, 57311-92-9[c]	Dichloroaniline
541-73-1	m-dichlorobenzene
95-50-1	o-dichlorobenzene
106-46-7	p-dichlorobenzene
75-71-8	Dichlorodifluoromethane
111-44-4	Dichloroethyl ether
107-06-2	1,2-dichloroethane (EDC)
96-23-1	Dichlorohydrin
26952-23-8	Dichloropropene
101-83-7	Dicyclohexylamine
109-89-7	Diethylamine

111-46-6	Diethylene glycol
112-36-7	Diethylene glycol diethyl ether
111-96-6	Diethylene glycol dimethyl ether
112-34-5	Diethylene glycol monobutyl ether
124-17-7	Diethylene glycol mononbutyl ether acetate
111-90-0	Diethylene glycol monoethyl ether
112-15-2	Diethylene glycol monoethyl ether acetate
111-77-3	Diethylene glycol monomethyl ether
64-67-5	Diethyl sulfate
75-37-6	Difluoroethane
25167-70-8	Diisobutylene
26761-40-0	Diisodecyl phthalate
27554-26-3	Diisooctyl phthalate
674-82-8	Diketene
124-40-3	Dimethylamine
121-69-7	N,N-dimethylaniline
115-10-6	N,N-dimethyl ether
68-12-2	N,N-dimethylformamide
57-14-7	Dimethylhydrazine
77-78-1	Dimethyl sulfate
75-18-3	Dimethyl sulfide
67-68-5	Dimethyl sulfoxide
120-61-6	Dimethyl terephthalate
99-34-3	3,5-dinitrobenzoic acid
51-28-5	Dinitrophenol
	Dinitrotolyene
123-91-1	Dioxane
646-06-0	Dioxilane
122-39-4	Diphenylamine
101-84-4	Diphenyl oxide
102-08-9	Diphenyl thiourea
25265-71-8	Dipropylene glycol
25378-22-7	Dodecene
28675-17-4	Dodecylaniline
27193-86-8	Dodecylphenol
106-89-8	Epichlorohydrin
64-17-5	Ethanol
141-43-5[c]	Ethanolamines
141-78-6	Ethyl acetate
141-97-9	Ethyl acetoacetate
140-88-5	Ethyl acrylate
75-04-7	Ethylamine
100-41-4	Ethylbenzene
74-96-4	Ethyl bromide

9004-57-3	Ethylcellulose
75-00-3	Ethyl chloride
105-39-5	Ethyl chloroacetate
105-56-6	Ethylcyanoacetate
74-85-1	Ethylene
96-49-1	Ethylene carbonate
107-07-3	Ethylene chlorohydrin
107-15-3	Ethylenediamine
106-93-4	Ethylene dibromide
107-21-1	Ethylene glycol
111-55-7	Ethylene glycol diacetate
110-71-4	Ethylene glycol dimethyl ether
111-76-2	Ethylene glycol monobutyl ether
112-07-2	Ethylene glycol monobutyl ether acetate
110-80-5	Ethylene glycol monoethyl ether
111-15-9	Ethylene glycol monoethyl ether acetate
109-86-4	Ethylene glycol monoethyl ether
110-49-6	Ethylene glycol monomethyl ether acetate
122-99-6	Ethylene glycol monophenyl ether
2807-30-9	Ethylene glycol monopropyl ether
75-21-8	Ethylene oxide
60-29-7	Ethyl ether
104-76-7	2-ethylhexanol
122-51-0	Ethyl orthoformate
95-92-1	Ethyl oxalate
41892-71-1	Ethyl sodium oxaloacetate
50-00-0	Formaldehyde
75-12-7	Formamide
64-18-6	Formic acid
110-17-8	Fumaric acid
98-01-1	Furfural
56-81-5	Glycerol (Synthetic)
26545-73-7	Glycerol dichlorohydrin
25791-96-2	Glycerol triether
56-40-6	Glycine
107-22-2	Glyoxal
118-74-1	Hexachlorobenzene
67-72-1	Hexachloroethane
36653-82-4	Hexadecyl alcohol
124-09-4	Hexamethylenediamine
629-11-8	Hexamethylene glycol
100-97-0	Hexamethylenetetramine
74-90-8	Hydrogen cyanide
123-31-9	Hydroquinone

99-96-7	p-hydroxybenzoic acid
26760-64-5	Isoamylene
78-83-1	Isobutanol
110-19-0	Isobutyl acetate
115-11-7	Isobutylene
78-84-2	Isobutyraldehyde
79-31-2	Isobutyric acid
25339-17-7	Isodecanol
26952-21-6	Isooctyl alcohol
78-78-4	Isopentane
78-59-1	Isophorone
121-91-5	Isophthalic acid
78-79-5	Isoprene
67-63-0	Isopropanol
108-21-4	Isopropyl acetate
75-31-0	Isopropylamine
75-29-6	Isopropyl chloride
25168-06-3	Isopropylphenol
463-51-4	Ketene
(b)	Linear alkyl sulfonate*
123-01-3	Linear alkylbenzene
110-16-7	Maleic acid
108-31-6	Maleic anhydride
6915-15-7	Malic acid
141-79-7	Mesityl oxide
121-47-1	Metanilic acid
79-41-4	Methacrylic acid
563-47-3	Methallyl chloride
67-56-1	Methanol
79-20-9	Methyl acetate
105-45-3	Methyl acetoacetate
74-89-5	Methylamine
100-61-8	n-methylaniline
74-83-9	Methyl bromide
37365-71-2	Methyl butynol
74-87-3	Methyl chloride
108-87-2	Methyl cyclohexane
1331-22-2	Methyl cyclohexanone
75-09-2	Methylene chloride
101-77-9	Methylene dianiline
101-68-8	Methylene diphenyl diisocyanate
78-93-3	Methyl ethyl ketone
107-31-3	Methyl formate
108-11-2	Methyl isobutyl carbinol
108-10-1	Methyl isobutyl ketone
80-62-6	Methyl methacrylate
77-75-8	Methylpentynol
98-83-9	B-methylstyrene
110-91-8	Morpholine
85-47-2	a-naphthalene sulfonic acid

120-18-3	B-naphthalene sulfonic acid
90-15-3	a-naphthol
135-19-3	B-naphthol
75-98-9	Neopentanoic acid
88-74-4	o-nitroaniline
100-01-6	p-nitroaniline
91-23-6	o-nitroanisole
100-17-4	p-nitroanisole
98-95-3	Nitrobenzene
27178-83-2[c]	Nitrobenzoic acid (o, m & p)
79-24-3	Nitroethane
75-52-5	Nitromethane
88-75-5	Nitrophenol
25322-01-4	Nitropropane
1321-12-6	Nitrotoluene
27215-95-8	Nonene
25154-52-3	Nonylphenol
27193-28-8	Octylphenol
123-63-7	Paraldehyde
115-77-5	Pentaerythritol
109-66-0	n-pentane
109-67-1	1-pentene
127-18-4	Perchloroethylene
594-42-3	Perchloromethyl mercaptan
94-70-2	o-phenetidine
156-43-4	p-phenetidine
108-95-2	Phenol
98-67-9, 585-38-6, 609-46-1, 133-39-7[c]	Phenolsulfonic acids
91-40-7	Phenyl anthranilic acid
(b)	Phenylenediamine
75-44-5	Phosgene
85-44-9	Phthalic anhydride
85-41-6	Phthalimide
108-99-6	b-picoline
110-85-0	Piperazine
9003-29-6, 25036-29-7[c]	Polybutenes
25322-68-3	Polyethylene glycol
25322-69-4	Polypropylene glycol
123-38-6	Propionaldehyde
79-09-4	Propionic acid
71-23-8	n-propyl alcohol
107-10-8	Propylamine
540-54-5	Propyl chloride
115-07-1	Propylene
127-00-4	Propylene chlorohydrin
78-87-5	Propylene dichloride
57-55-6	Propylene glycol

75-56-9	Propylene oxide
110-86-1	Pyridine
106-51-4	Quinone
108-46-3	Resorcinol
27138-57-4	Resorcylic acid
69-72-7	Salicylic acid
127-09-3	Sodium acetate
532-32-1	Sodium benzoate
9004-32-4	Sodium carboxymethyl cellulose
3926-62-3	Sodium chloroacetate
141-53-7	Sodium formate
139-02-6	Sodium phenate
110-44-1	Sorbic acid
100-42-5	Styrene
110-15-6	Succinic acid
110-61-2	Succinitrile
121-57-3	Sulfanilic acid
126-33-0	Sulfolane
1401-55-4	Tannic acid
100-21-0	Terephthalic acid
79-34-5[c]	Tetrachloroethanes
117-08-8	Tetrachlorophthalic anhydride
78-00-2	Tetraethyllead
119-64-2	Tetrahydronaphthalene
85-43-8	Tetrahydrophthalic anhydride
75-74-1	Tetramethyllead
110-60-1	Tetramethylenediamine
110-18-9	Tetramethylethylenediamine
108-88-3	Toluene
95-80-7	Toluene-2,4-diamine
584-84-9	Toluene-2,4-diisocyanate
26471-62-5	Toluene diisocyanates (mixture)
1333-07-9	Toluene sulfonamide
104-15-4[c]	Toluenesulfonic acids
98-59-9	Toluene sulfonyl chloride
26915-12-8	Toluidines
87-61-6, 108-70-3, 120-82-1[c]	Trichlorobenzenes
71-55-6	1,1,1-trichloroethane
79-00-5	1,1,2-trichloroethane
79-01-6	Trichloroethylene
75-69-4	Trichlorofluoromethane
96-18-4	1,2,3-trichloropropane
76-13-1	1,1,2-trichloro-1,2,2-trifluoroethane
121-44-8	Triethylamine
112-27-6	Triethylene glycol
112-49-2	Triethylene glycoldimethyl ether

7756-94-7	Triisobutylene
75-50-3	Trimethylamine
57-13-6	Urea
108-05-4	Vinyl acetate
75-01-4	Vinyl chloride
75-35-4	Vinylidene chloride
25013-15-4	Vinyl toluene
1330-20-7	Xylenes (mixed)
95-47-6	o-xylene
106-42-3	p-xylene
1300-71-6	Xylenol
1300-73-8	Xylidine
(b)	methyl tert-butyl ether
9002-88-4	Polyethylene
(b)	Polypropylene
9009-53-6	Polystyrene

a) CAS numbers refer to the Chemical Abstracts Registery numbers assigned to specific chemicals, isomers or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

b) No CAS number(s) have been assigned to this chemical, to its isomers, or mixtures containing these chemicals.

c) CAS numbers for some of the isomers are listed: the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.Appendix B
VOM Measurement Techniques for Capture Efficiency

Procedure G.1 - Captured VO~~C~~M Emissions

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the volatile organic ~~compounds~~materials (VO~~C~~M) content of captured gas streams. It is intended to be used as a segment in the development of liquid/gas or gas/gas protocols for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations. The procedure may not be acceptable in certain site-specific situations, e.g., when: (1) direct fired heaters or other circumstances affect the quantity of VO~~C~~M at the control device inlet; and (2) particulate organic aerosols are formed in the process and are present in the captured emissions.

1.2 Principle. The amount of VO~~C~~M captured (G) is calculated as the sum of the products of the VO~~C~~M content (C_{Gj}), the flow rate (Q_{Gj}), and the sample time (T_C) from each captured emissions point.

1.3 Estimated Measurement Uncertainty. The measurement uncertainties are estimated for each captured or fugitive emissions point as follows: Q_{Gj} = 5.5 percent and C_{Gj} = $\pm$5.0 percent. Based on these numbers, the probable uncertainty for G is estimated at about $\pm$7.4 percent.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Gas VO~~C~~M Concentration. A schematic of the measurement system is shown in Figure 1. The main components are described below:

2.1.1 Sample Probe. Stainless steel, or equivalent. The probe shall be heated to prevent VO~~C~~M condensation.

2.1.2 Calibration Valve Assembly. Three-way valve assembly at the outlet of sample probe to direct the zero and calibration gases to the analyzer. Other methods, such as quick-connect lines, to route calibration gases to the outlet of the sample probe are acceptable.

2.1.3 Sample Line. Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line must be heated to prevent condensation.

2.1.4 Sample Pump. A leak-free pump, to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The components of the pump that contact the gas stream shall be constructed of stainless steel or Teflon. The sample pump must be heated to prevent condensation.

2.1.5 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent. The flow rate control valve and rotameter must be heated to prevent condensation. A control valve may also be located on the sample pump bypass loop to assist in controlling the sample pressure and flow rate.

2.1.6 Sample Gas Manifold. Capable of diverting a portion of the sample gas stream to the flame ionization analyzer (FIA), and the remainder to the bypass discharge vent. The manifold components shall be constructed of stainless steel or Teflon. If captured or fugitive emissions are to be measured at multiple locations, the measurement system shall be designed to use separate sampling probes, lines, and pumps for each measurement location and a common sample gas manifold and FIA. The sample gas manifold and connecting lines to the FIA must be heated to prevent condensation.

2.1.7 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however, other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.1.7.1 Zero Drift. Less than ±3.0 percent of the span value.

2.1.7.2 Calibration Drift. Less than ±3.0 percent of the span value.

2.1.7.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.1.7.4 Response Time. Less than 30 seconds.

2.1.8 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.1.9 Calibration and Other Gases. Gases used for calibration, fuel, and combustion air (if required) are contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.1.9.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.1.9.2 Carrier Gas. High purity air with less than 1 ppm of organic material (as propane or carbon equivalent) or less than 0.1 percent of the span value, whichever is greater.

2.1.9.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.1.10 Particulate Filter. An in-stack or an out-of-stack glass fiber filter is recommended if exhaust gas particulate loading is significant. An out-of-stack filter must be heated to prevent any condensation unless it can be demonstrated that no condensation occurs.

2.2 Captured Emissions Volumetric Flow Rate.

2.2.1 Method 2 or 2A Apparatus. For determining volumetric flow rate.

2.2.2 Method 3 Apparatus and Reagents. For determining molecular weight of the gas stream. An estimate of the molecular weight of the gas stream may be used if it can be justified.

2.2.3 Method 4 Apparatus and Reagents. For determining moisture content, if necessary.

3. DETERMINATION OF VOLUMETRIC FLOW RATE OF CAPTURED EMISSIONS

3.1 Locate all points where emissions are captured from the affected ~~facility~~emission unit. Using Method 1, determine the sampling points. Be sure to check each site for cyclonic or swirling flow.

3.2 Measure the velocity at each sampling site at least once every hour during each sampling run using Method 2 or 2A.

4. DETERMINATION OF VO~~C~~M CONTENT OF CAPTURED EMISSIONS

4.1 Analysis Duration. Measure the VO~~C~~M responses at each captured emissions point during the entire test run or, if applicable, while the process is operating. If there are multiple captured emission locations, design a sampling system to allow a single FIA to be used to determine the VO~~C~~M responses at all sampling locations.

4.2 Gas VO~~C~~M Concentration.

4.2.1 Assemble the sample train as shown in Figure 1. Calibrate the FIA according to the procedure in Section 5.1.

4.2.2 Conduct a system check according to the procedure in Section 5.3.

4.2.3 Install the sample probe so that the probe is centrally located in the stack, pipe, or duct, and is sealed tightly at the stack port connection.

4.2.4 Inject zero gas at the calibration valve assembly. Allow the measurement system response to reach zero. Measure the system response time as the time required for the system to reach the effluent concentration after the calibration valve has been returned to the effluent sampling position.

4.2.5 Conduct a system check before and a system drift check after each sampling run according to the procedures in Sections 5.2 and 5.3. If the drift check following a run indicates unacceptable performance, the run is not valid. The tester may elect to perform system drift checks during the run not to exceed one drift check per hour.

4.2.6 Verify that the sample lines, filter, and pump temperatures are 120 ±5°C.

4.2.7 Begin sampling at the start of the test period and continue to sample during the entire run. Record the starting and ending times and any required process information as appropriate. If multiple captured emission locations are sampled using a single FIA, sample at each location for the same amount of time (e.g., 2 minutes) and continue to switch from one location to another for the entire test run. Be sure that total sampling time at each location is the same at the end of the test run. Collect at least 4 separate measurements from each sample point during each hour of testing. Disregard the measurements at each sampling location until two times the response time of the measurement system has elapsed. Continue sampling for at least 1 minute and record the concentration measurements.

4.3 Background Concentration.

4.3.1 Locate all NDO's of the TTE. A sampling point shall be centrally located outside of the TTE at 4 equivalent diameters from each NDO, if possible. If there are more than 6 NDO's, choose 6 sampling points evenly spaced among the NDO's.

4.3.2 Assemble the sample train as shown in Figure 2. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and 5.3. NOTE: This sample train shall be a separate sampling train from the one to measure the captured emissions.

4.3.3 Position the probe at the sampling location.

4.3.4 Determine the response time, conduct the system check and sample according to the procedures described in Sections 4.2.4 to 4.2.7.

4.4 Alternative Procedure. The direct interface sampling and analysis procedure described in Section 7.2 of Method 18 may be used to determine the gas VO~~C~~M concentration. The system must be designed to collect and analyze at least one sample every 10 minutes.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. Select the calibration gas that most closely approximates the concentration of the captured emissions for conducting the drift checks. Introduce the zero and calibration gas at the calibration valve assembly and verify that the appropriate gas flow rate and pressure are present at the FIA. Record the measurement system responses to the zero and calibration gases. The performance of the system is acceptable if the difference between the drift check measurement and the value obtained in Section 5.1 is less than 3 percent of the span value. Conduct the system drift checks at the end of each run.

5.3 System Check. Inject the high range calibration gas at the inlet of the sampling probe and record the response. The performance of the system is acceptable if the measurement system response is within 5 percent of the value obtained in Section 5.1 for the high range calibration gas. Conduct a system check before and after each test run.

5.4 Analysis Audit. Immediately before each test analyze an audit cylinder as described in Section 5.2. The analysis audit must agree with the audit cylinder concentration within 10 percent.

6. NOMENCLATURE

A_i = area of NDO i, ft^2~~.~~;

A_N = total area of all NDO's in the enclosure, ft^2~~.~~;

C_{Bi} = corrected average VOCM concentration of background emissions at point i, ppm propane~~.~~;

C_B = average background concentration, ppm propane~~.~~;

C_{Gj} = corrected average VOCM concentration of captured emissions at point j, ppm propane~~.~~;

C_{DH} = average measured concentration for the drift check calibration gas, ppm propane~~.~~;

C_{DO} = average system drift check concentration for zero concentration gas, ppm propane~~.~~;

C_H = actual concentration of the drift check calibration gas, ppm propane~~.~~;

C_i = uncorrected average background VOCM concentration measured at point i, ppm propane~~.~~;

C_j = uncorrected average VOCM concentration measured at point j, ppm propane~~.~~;

G = total VOCM content of captured emissions, kg~~.~~;

K_1 = 1.830×10^{-6} kg/(m^3-ppm)~~.~~;

n = number of measurement points~~.~~;

Q_{Gj} = average effluent volumetric flow rate corrected to standard conditions at captured emissions point j, m^3/min~~.~~;

T_C = total duration of captured emissions sampling run, min.

7. CALCULATIONS

7.1 Total VO~~C~~M Captured Emissions.

$$G = \sum_{j=1}^{n} (C_{Gj} - C_B)\ Q_{Gj}\ T_C\ K_1 \qquad \text{Eq. 1}$$

7.2 VO~~C~~M Concentration of the Captured Emissions at Point j.

$$C_{Gj} = (C_j - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 2}$$

7.3 Background VO~~C~~M Concentration at Point i.

$$C_{Bi} = (C_i - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 3}$$

7.4 Average Background Concentration.

$$CB = \frac{\sum_{i-1}^{n} C_{Bi}\ A_i}{nA_N} \qquad \text{Eq. 4}$$

NOTE: If the concentration at each point is within 20 percent of the average concentration of all points, the terms "A_i" and "A_N" may be deleted from Equation 4.

Procedure G.2 - Captured VO~~C~~M Emissions (Dilution Technique)

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the volatile organic ~~compounds~~materials (VO~~C~~M) content of captured gas streams. It is intended to be used as a segment in the development of a gas/gas protocol in which fugitive emissions are measured for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations. A dilution system is used to reduce the VO~~C~~M concentration of the captured emission to about the same concentration as the fugitive emissions. The procedure may not be acceptable in certain site-specific situations, e.g., when: (1) direct fired heaters or other circumstances affect the quantity of VO~~C~~M at the control device inlet; and (2) particulate organic aerosols are formed in the process and are present in the captured emissions.

1.2 Principle. The amount of VO~~C~~M captured (G) is calculated as the sum of the products of the VO~~C~~M content (C_{Gj}), the flow rate (Q_{Gj}), and the sampling time (T_C) from each captured emissions point.

1.3 Estimated Measurement Uncertainty. The measurement uncertainties are estimated for each captured or fugitive emissions point as follows: Q_{Gj} = ±5.5 percent and C_{Gj} = ±5 percent. Based on these numbers, the probable uncertainty for G is estimated at about ±7.4 percent.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Gas VO~~C~~M Concentration. A schematic of the measurement system is shown in Figure 1. The main components are described below:

2.1.1 Dilution System. A Kipp in-stack dilution probe and controller or similar device may be used. The dilution rate may be changed by substituting different critical orifices or adjustments of the aspirator supply pressure. The dilution system shall be heated to prevent VO~~C~~M condensation. Note: An out-of-stack dilution device may be used.

2.1.2 Calibration Valve Assembly. Three-way valve assembly at the outlet of sample probe to direct the zero and calibration gases to the analyzer. Other methods, such as quick-connect lines, to route calibration gases to the outlet of the sample probe are acceptable.

2.1.3 Sample Line. Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line must be heated to prevent condensation.

2.1.4 Sample Pump. A leak-free pump, to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The components of the pump that contact the gas stream shall be constructed of stainless steel or Teflon. The sample pump must be heated to prevent condensation.

2.1.5 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent. The flow control valve and rotameter must be heated to prevent condensation. A control valve may also be located on the sample pump bypass loop to assist in controlling the sample pressure and flow rate.

2.1.6 Sample Gas Manifold. Capable of diverting a portion of the sample gas stream to the flame ionization analyzer (FIA), and the remainder to the bypass discharge vent. The manifold components shall be constructed of stainless steel or Teflon. If captured or fugitive emissions are to be measured at multiple locations, the measurement system shall be designed to use separate sampling probes, lines, and pumps for each measurement location and a common sample gas manifold and FIA. The sample gas manifold and connecting lines to the FIA must be heated to prevent condensation.

2.1.7 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however, other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.1.7.1 Zero Drift. Less than ±3.0 percent of the span value.

2.1.7.2 Calibration Drift. Less than ±3.0 percent of the span value.

2.1.7.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.1.7.4 Response Time. Less than 30 seconds.

2.1.8 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.1.9 Calibration and Other Gases. Gases used for calibration, fuel, and combustion air (if required) are contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.1.9.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.1.9.2 Carrier Gas and Dilution Air Supply. High purity air with less than 1 ppm of organic material (as propane or carbon equivalent) or less than 0.1 percent of the span value, whichever is greater.

2.1.9.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.1.9.4 Dilution Check Gas. Gas mixture standard containing propane in air, approximately half the span value after dilution.

2.1.10 Particulate Filter. An in-stack or an out-of-stack glass fiber filter is recommended if exhaust gas particulate loading is significant. An out-of-stack filter must be heated to prevent any condensation unless it can be demonstrated that no condensation occurs.

2.2 Captured Emissions Volumetric Flow Rate.

2.2.1 Method 2 or 2A Apparatus. For determining volumetric flow rate.

2.2.2 Method 3 Apparatus and Reagents. For determining molecular weight of the gas stream. An estimate of the molecular weight of the gas stream may be used if it can be justified.

2.2.3 Method 4 Apparatus and Reagents. For determining moisture content, if necessary.

3. DETERMINATION OF VOLUMETRIC FLOW RATE OF CAPTURED EMISSIONS

3.1 Locate all points where emissions are captured from the affected facility. Using Method 1, determine the sampling points. Be sure to check each site for cyclonic or swirling flow.

3.2 Measure the velocity at each sampling site at least once every hour during each sampling run using Method 2 or 2A.

4. DETERMINATION OF VO~~C~~M CONTENT OF CAPTURED EMISSIONS

4.1 Analysis Duration. Measure the VO~~C~~M responses at each captured emissions point during the entire test run or, if applicable, while the process is operating. If there are a multiple captured emissions locations, design a sampling system to allow a single FIA to be used to determine the VO~~C~~M responses at all sampling locations.

4.2 Gas VO~~C~~M Concentration.

4.2.1 Assemble the sample train as shown in Figure 1. Calibrate the FIA according to the procedure in Section 5.1.

4.2.2 Set the dilution ratio and determine the dilution factor according to the procedure in Section 5.3.

4.2.3 Conduct a system check according to the procedure in Section 5.4.

4.2.4 Install the sample probe so that the probe is centrally located in the stack, pipe, or duct, and is sealed tightly at the stack port connection.

4.2.5 Inject zero gas at the calibration valve assembly. Measure the system response time as the time required for the system to reach the effluent concentration after the calibration valve has been returned to the effluent sampling position.

4.2.6 Conduct a system check before and a system drift check after each sampling run according to the procedures in Sections 5.2 and 5.4. If the drift check following a run indicates unacceptable performance, the run is not valid. The tester may elect to perform system drift checks during the run not to exceed one drift check per hour.

4.2.7 Verify that the sample lines, filter, and pump temperatures are 120 ±5°C.

4.2.8 Begin sampling at the start of the test period and continue to sample during the entire run. Record the starting and ending times and any required process information as appropriate. If multiple captured emission locations are sampled using a single FIA, sample at each location for the same amount of time (e.g., 2 minutes) and continue to switch from one location to another for the entire test run. Be sure that total sampling time at each location is the same at the end of the test run. Collect at least 4 separate measurements from each sample point during each hour of testing. Disregard the measurements at each sampling location until two times the response time of the measurement system has elapsed. Continue sampling for at least 1 minute and record the concentration measurements.

4.3 Background Concentration.

4.3.1 Locate all NDO's of the TTE. A sampling point shall be centrally located outside of the TTE at 4 equivalent diameters from each NDO, if possible. If there are more than 6 NDO's, choose 6 sampling points evenly spaced among the NDO's.

4.3.2 Assemble the sample train as shown in Figure 2. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and 5.4.

4.3.3 Position the probe at the sampling location.

4.3.4 Determine the response time, conduct the system check and sample according to the procedures described in Sections 4.2.4 to 4.2.8.

4.4 Alternative Procedure. The direct interface sampling and analysis procedure described in Section 7.2 of Method 18 may be used to determine the gas VO~~C~~M concentration. The system must be designed to collect and analyze at least one sample every 10 minutes.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system after the dilution system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. Select the calibration gas that most closely approximates the concentration of the diluted captured emissions for conducting the drift checks. Introduce the zero and calibration gas at the calibration valve assembly and verify that the appropriate gas flow rate and pressure are present at the FIA. Record the measurement system responses to the zero and calibration gases. The performance of the system is acceptable if the difference between the drift check measurement and the value obtained in Section 5.1 is less than 3 percent of the span value. Conduct the system drift check at the end of each run.

5.3 Determination of Dilution Factor. Inject the dilution check gas into the measurement system before the dilution system and record the response. Calculate the dilution factor using Equation 3.

5.4 System Check. Inject the high range calibration gas at the inlet to the sampling probe while the dilution air is turned off. Record the response. The performance of the system is acceptable if the measurement system response is within 5 percent of the value obtained in Section 5.1 for the high range calibration gas. Conduct a system check before and after each test run.

5.5 Analysis Audit. Immediately before each test analyze an audit cylinder as described in Section 5.2. The analysis audit must agree with the audit cylinder concentration within 10 percent.

6. NOMENCLATURE

A_i = area of NDO i, ft^2~~.~~;

A_N = total area of all NDO's in the enclosure, ft^2~~.~~;

C_A = actual concentration of the dilution check gas, ppm propane~~.~~;

C_{Bi} = corrected average VOCM concentration of background emissions at point i, ppm propane~~.~~;

C_B = average background concentration, ppm propane~~.~~;

C_{DH} = average measured concentration for the drift check calibration gas, ppm propane~~.~~;

C_{D0} = average system drift check concentration for zero concentration gas, ppm propane~~.~~;

C_H = actual concentration of the drift check calibration gas, ppm propane~~.~~;

C_i = uncorrected average background VOCM concentration measured at point i, ppm propane~~.~~;

C_j = uncorrected average VOCM concentration measured at point j, ppm propane~~.~~;

C_M = measured concentration of the dilution check gas, ppm propane~~.~~;

DF = dilution factor~~.~~;

G = total VOCM content of captured emissions, kg~~.~~;

K_1 = 1.830×10^{-6} kg/(m^3-ppm)~~.~~;

n = number of measurement points~~.~~;

Q_{Gj} = average effluent volumetric flow rate corrected to standard conditions at captured emissions point j, m^3/min~~.~~;

T_C = total duration of capture efficiency sampling run, min.

7. CALCULATIONS

7.1 Total VO~~C~~M Captured Emissions.

$$G = \sum_{j=1}^{n} C_{Gj} \; Q_{Gj} \; T_C \; K_1 \qquad \text{Eq. 1}$$

7.2 VO~~C~~M Concentration of the Captured Emissions at Point j.

$$C_{Gj} = DF\,(C_j - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 2}$$

7.3 Dilution Factor.

$$D_F = \frac{C_A}{C_M} \qquad \text{Eq. 3}$$

7.4 Background VO~~C~~M Concentration at Point i.

$$C_{Bi} = (C_i - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 4}$$

7.5 Average Background Concentration.

$$C_B = \frac{\sum_{i=1}^{n} C_{BJ} \quad A_i}{nA_N} \qquad \text{Eq. 5}$$

NOTE: If the concentration at each point is within 20 percent of the average concentration of all points, the terms "A_i" and "A_N" may be deleted from Equation 4.

Procedure F.2 - Fugitive VO~~C~~M Emissions from Building Enclosures

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the fugitive volatile organic ~~compounds~~materials (VO~~C~~M) emissions from a building enclosure (BE). It is intended to be used as a segment in the development of liquid/gas or gas/gas protocols for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations.

1.2 Principle. The total amount of fugitive VO~~C~~M emissions (F_B) from the BE is calculated as the sum of the products of the VO~~C~~M content (C_{Fj}) of each fugitive emissions point, its flow rate (Q_{Fj}), and time (T_F).

1.3 Measurement Uncertainty. The measurement uncertainties are estimated for each fugitive emissions point as follows: Q_{Fj} = ±5.0 percent and C_{Fj} = ±5.0 percent. Based on these numbers, the probable uncertainty for F_B is estimated at about ±11.2 percent.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Gas VO~~C~~M Concentration. A schematic of the measurement system is shown in Figure 1. The main components are described below:

2.1.1 Sample Probe. Stainless steel, or equivalent. The probe shall be heated to prevent VO~~C~~M condensation.

2.1.2 Calibration Valve Assembly. Three-way valve assembly at the outlet of sample probe to direct the zero and calibration gases to the analyzer. Other methods, such as quick-connect lines, to route calibration gases to the outlet of the sample probe are acceptable.

2.1.3 Sample Line. Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line must be heated to prevent condensation.

2.1.4 Sample Pump. A leak-free pump, to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The components of the pump that contact the gas stream shall be constructed of stainless steel or Teflon. The sample pump must be heated to prevent condensation.

2.1.5 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent. The flow rate control valve and rotameter must be heated to prevent condensation. A control valve may also be located on the sample pump bypass loop to assist in controlling the sample pressure and flow rate.

2.1.6 Sample Gas Manifold. Capable of diverting a portion of the sample gas stream to the flame ionization analyzer (FIA), and the remainder to the bypass discharge vent. The manifold components shall be constructed of stainless steel or Teflon. If emissions are to be measured at multiple locations, the measurement system shall be designed to use separate sampling probes, lines, and pumps for each measurement location and a common sample gas manifold and FIA. The sample gas manifold must be heated to prevent condensation.

2.1.7 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however, other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.1.7.1 Zero Drift. Less than ±3.0 percent of the span value.

2.1.7.2 Calibration Drift. Less than ±3.0 percent of the span value.

2.1.7.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.1.7.4 Response Time. Less than 30 seconds.

2.1.8 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.1.9 Calibration and Other Gases. Gases used for calibration, fuel, and combustion air (if required) are contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.1.9.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.1.9.2 Carrier Gas. High purity air with less than 1 ppm of organic material (propane or carbon equivalent) or less than 0.1 percent of the span value, whichever is greater.

2.1.9.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.1.10 Particulate Filter. An in-stack or an out-of-stack glass fiber filter is recommended if exhaust gas particulate loading is significant. An out-of-stack filter must be heated to prevent any condensation unless it can be demonstrated that no condensation occurs.

2.2 Fugitive Emissions Volumetric Flow Rate.

2.2.1 Flow Direction Indicators. Any means of indicating inward or outward flow, such as light plastic film or paper streamers, smoke tubes, filaments, and sensory perception.

2.2.2 Method 2 or 2A Apparatus. For determining volumetric flow rate. Anemometers or similar devices calibrated according to the manufacturer's instructions may be used when low velocities are present. Vane anemometers (Young-maximum response propeller), specialized pitots with electronic manometers (e.g., Shortridge Instruments Inc., Airdata Multimeter 860) are commercially available with measurement thresholds of 15 and 8 mpm (50 and 25 fpm), respectively.

2.2.3 Method 3 Apparatus and Reagents. For determining molecular weight of the gas stream. An estimate of the molecular weight of the gas stream may be used if it can be justified.

2.2.4 Method 4 Apparatus and Reagents. For determining moisture content, if necessary.

3. DETERMINATION OF VOLUMETRIC FLOW RATE OF FUGITIVE EMISSIONS

3.1 Preliminary Determinations. The purpose of this exercise is to determine which exhaust points should be measured for volumetric flow rates and VO~~C~~M concentrations.

3.1.1 Forced Draft Openings. Identify all forced draft openings. Determine the volumetric flow rate according to Method 2.

3.1.2 NDO's Exhaust Points. The NDO's in the roof of ~~a facility~~the building or room in which the emission unit is located are considered to be exhaust points. Determine volumetric flow rate from these NDO's. Divide the cross-sectional area according to Method 1 using 12 equal areas. Use the appropriate velocity measurement devices, e.g., propeller anemometers.

3.1.3 Other NDO's.

3.1.3.1 This step is optional. Determine the exhaust flow rate, including that of the control device, from the enclosure and the intake air flow rate. If the exhaust flow rate divided by the intake air flow rate is greater than 1.1, then all other NDO's are not considered to be significant exhaust points.

3.1.3.2 If the option above is not taken, identify all other NDO's and other potential points through which fugitive emissions may escape the enclosure.

Then use the following criteria to determine whether flow rates and VO~~C~~M concentrations need to be measured:

3.1.3.2.1 Using the appropriate flow direction indicator, determine the flow direction. An NDO with zero or inward flow is not an exhaust point.

3.1.3.2.2 Measure the outward volumetric flow rate from the remainder of the NDO's. If the collective flow rate is 2 percent, or less, of the flow rate from Sections 3.1.1 and 3.1.2, then these NDO's, except those within two equivalent diameters (based on NDO opening) from a VO~~C~~M ~~sources~~emitting point, may be considered to be non-exhaust points.

3.1.3.2.3 If the percentage calculated in Section 3.1.3.2.2 is greater than 2 percent, those NDO's (except those within two equivalent diameters from a VO~~C~~M ~~sources~~emitting point) whose volumetric flow rate total 2 percent of the flow rate from Sections 3.1.1 and 3.1.2 may be considered as non-exhaust points. All remaining NDO's shall be measured for volumetric flow rate and VO~~C~~M concentrations during the CE test.

3.1.3.2.4 The tester may choose to measure VO~~C~~M concentrations at the forced exhaust points and the NDO's. If the total VO~~C~~M emissions from the NDO's are less than 2 percent of the emissions from the forced draft and roof NDO's, then these NDO's may be eliminated from further consideration.

3.2 Determination of Flow Rates.

3.2.1 Measure the volumetric flow rate at all locations identified as exhaust points in Section 3.1. Divide each exhaust opening into 9 equal areas for rectangular openings and 8 for circular openings.

3.2.2 Measure the velocity at each site at least once every hour during each sampling run using Method 2 or 2A, if applicable, or using the low velocity instruments in Section 2.2.2.

4. DETERMINATION OF VO~~C~~M CONTENT OF FUGITIVE EMISSIONS

4.1 Analysis Duration. Measure the VO~~C~~M responses at each fugitive emission point during the entire test run or, if applicable, while the process is operating. If there are multiple emissions locations, design a sampling system to allow a single FIA to be used to determine the VO~~C~~M responses at all sampling locations.

4.2 Gas VO~~C~~M Concentration.

4.2.1 Assemble the sample train as shown in Figure 1. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and 5.3, respectively.

4.2.2 Install the sample probe so that the probe is centrally located in the stack, pipe, or duct, and is sealed tightly at the stack port connection.

4.2.3 Inject zero gas at the calibration valve assembly. Allow the measurement system response to reach zero. Measure the system response time as the time required for the system to reach the effluent concentration after the calibration valve has been returned to the effluent sampling position.

4.2.4 Conduct a system check before and a system drift check after each sampling run according to the procedures in Sections 5.2 and 5.3. If the drift check following a run indicates unacceptable performance, the run is not valid. The tester may elect to perform drift checks during the run not to exceed one drift check per hour.

4.2.5 Verify that the sample lines, filter, and pump temperatures are 120 ±5°C.

4.2.6 Begin sampling at the start of the test period and continue to sample during the entire run. Record the starting and ending times and any required process information as appropriate. If multiple emission locations are sampled using a single FIA, sample at each location for the same amount of time (e.g., 2 minutes) and continue to switch from one location to another for the entire test run. Be sure that total sampling time at each location is the same at the end of the test run. Collect at least 4 separate measurements from each sample point during each hour of testing. Disregard the response measurements at each sampling location until two times the response time of the measurement system has elapsed. Continue sampling for at least 1 minute and record the concentration measurements.

4.3 Alternative Procedure The direct interface sampling and analysis procedure described in Section 7.2 of Method 18 may be used to determine the gas VOC$_M$ concentration. The system must be designed to collect and analyze at least one sample every 10 minutes.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. Select the calibration gas that most closely approximates the concentration of the captured emissions for conducting the drift checks. Introduce the zero and calibration gas at the calibration valve assembly and verify that the appropriate gas flow rate and pressure are present at the FIA. Record the measurement system responses to the zero and calibration gases. The performance of the system is acceptable if the difference between the drift check measurement and the value obtained in Section 5.1 is less than 3 percent of the span value. Conduct a system drift check at the end of each run.

5.3 System Check. Inject the high range calibration gas at the inlet of the sampling probe and record the response. The performance of the system is acceptable if the measurement system response is within 5 percent of the value obtained in Section 5.1 for the high range calibration gas. Conduct a system check before each test run.

5.4 Analysis Audit. Immediately before each test analyze an audit cylinder as described in Section 5.2. The analysis audit must agree with the audit cylinder concentration within 10 percent.

6. NOMENCLATURE

C_{DH} = average measured concentration for the drift check calibration gas, ppm propane~~.~~;

C_{D0} = average system drift check concentration for zero concentration gas, ppm propane~~.~~;

C_{Fj} = corrected average VO~~C~~M concentration of fugitive emissions at point j, ppm propane~~.~~;

C_H = actual concentration of the drift check calibration gas, ppm propane~~.~~;

C_j = uncorrected average VO~~C~~M concentration measured at point j, ppm propane.;

F_B = total VO~~C~~M content of fugitive emissions from the building, kg~~.~~;

K_1 = 1.830×10^{-6} kg/(m^3-ppm)~~.~~;

n = number of measurement points~~.~~;

Q_{Fj} = average effluent volumetric flow rate corrected to standard conditions at fugitive emissions point j, m^3/min~~.~~;

T_F = total duration of capture efficiency sampling run, min.

7. CALCULATIONS

7.1 Total VO~~C~~M Fugitive Emissions From the Building.

$$F_B = \sum_{j=1}^{n} C_{Fj} \quad Q_{Fj} \quad T_F \quad K_1 \qquad \text{Eq. 1}$$

7.2 VO~~C~~M Concentration of the Fugitive Emissions at Point j.

$$C_{Fj} = (C_j - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 2}$$

Procedure F.1 - Fugitive VO~~C~~M Emissions from Temporary Enclosures

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the fugitive volatile organic ~~compounds~~materials (VO~~C~~M) emissions from a temporary total enclosure (TTE). It is intended to be used as a segment in the development of liquid/gas or gas/gas protocols for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations.

1.2 Principle. The amount of fugitive VO~~C~~M emissions (F) from the TTE is calculated as the sum of the products of the VO~~C~~M content (C_{Fj}), the flow rate (Q_{Fj}), and the sampling time (T_F) from each fugitive emissions point.

1.3 Estimated Measurement Uncertainty. The measurement uncertainties are estimated for each fugitive emission point as follows: Q_{Fj}= ±5.5 percent and CF_j = ±5.0 percent. Based on these numbers, the probable uncertainty for F is estimated at about ±7.4 percent.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Gas VO~~C~~M Concentration. A schematic of the measurement system is shown in Figure 1. The main components are described below:

2.1.1 Sample Probe. Stainless steel, or equivalent. The probe shall be heated to prevent VO~~C~~M condensation.

2.1.2 Calibration Valve Assembly. Three-way valve assembly at the outlet of sample probe to direct the zero and calibration gases to the analyzer. Other methods, such as quick-connect lines, to route calibration gases to the outlet of the sample probe are acceptable.

2.1.3 Sample Line. Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line must be heated to prevent condensation.

2.1.4 Sample Pump. A leak-free pump, to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The components of the pump that contact the gas stream shall be constructed of stainless steel or Teflon. The sample pump must be heated to prevent condensation.

2.1.5 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent. The flow control valve and rotameter must be heated to prevent condensation. A control valve may also be located on the sample pump bypass loop to assist in controlling the sample pressure and flow rate.

2.1.6 Sample Gas Manifold. Capable of diverting a portion of the sample gas stream to the flame ionization analyzer (FIA), and the remainder to the bypass discharge vent. The manifold components shall be constructed of stainless steel or Teflon. If emissions are to be measured at multiple locations, the measurement system shall be designed to use separate sampling probes, lines, and pumps for each measurement location and a common sample gas manifold and FIA. The sample gas manifold and connecting lines to the FIA must be heated to prevent condensation.

2.1.7 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however, other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.1.7.1 Zero Drift. Less than ±3.0 percent of the span value.

2.1.7.2 Calibration Drift. Less than ±3.0 percent of the span value.

2.1.7.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.1.7.4 Response Time. Less than 30 seconds.

2.1.8 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.1.9 Calibration and Other Gases. Gases used for calibration, fuel, and combustion air (if required) are contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.1.9.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.1.9.2 Carrier Gas. High purity air with less than 1 ppm of organic material (as propane or carbon equivalent) or less than 0.1 percent of the span value, whichever is greater.

2.1.9.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.1.10 Particulate Filter. An in-stack or an out-of-stack glass fiber filter is recommended if exhaust gas particulate loading is significant. An out-of-stack filter must be heated to prevent any condensation unless it can be demonstrated that no condensation occurs.

2.2 Fugitive Emissions Volumetric Flow Rate.

2.2.1 Method 2 or 2A Apparatus. For determining volumetric flow rate.

2.2.2 Method 3 Apparatus and Reagents. For determining molecular weight of the gas stream. An estimate of the molecular weight of the gas stream may be used if it can be justified.

2.2.3 Method 4 Apparatus and Reagents. For determining moisture content, if necessary.

2.3 Temporary Total Enclosure. The criteria for designing a TTE are discussed in Procedure T.

3. DETERMINATION OF VOLUMETRIC FLOW RATE OF FUGITIVE EMISSIONS .

3.1 Locate all points where emissions are exhausted from the TTE. Using Method 1, determine the sampling points. Be sure to check each site for cyclonic or swirling flow.

3.2 Measure the velocity at each sampling site at least once every hour during each sampling run using Method 2 or 2A.

4. DETERMINATION OF VO~~C~~M CONTENT OF FUGITIVE EMISSIONS

4.1 Analysis Duration. Measure the VO~~C~~M responses at each fugitive emission point during the entire test run or, if applicable, while the process is operating. If there are multiple emission locations, design a sampling system to allow a single FIA to be used to determine the VOCM responses at all sampling locations.

4.2 Gas VO~~C~~M Concentration.

4.2.1 Assemble the sample train as shown in Figure 1. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and 5.3, respectively.

4.2.2 Install the sample probe so that the probe is centrally located in the stack, pipe, or duct, and is sealed tightly at the stack port connection.

4.2.3 Inject zero gas at the calibration valve assembly. Allow the measurement system response to reach zero. Measure the system response time as the time required for the system to reach the effluent concentration after the calibration valve has been returned to the effluent sampling position.

4.2.4 Conduct a system check before and a system drift check after each sampling run according to the procedures in Sections 5.2 and 5.3. If the drift check following a run indicates unacceptable performance, the run is not valid. The tester may elect to perform system drift checks during the run not to exceed one drift check per hour.

4.2.5 Verify that the sample lines, filter, and pump temperatures are 120 ±5°C.

4.2.6 Begin sampling at the start of the test period and continue to sample during the entire run. Record the starting and ending times and any required process information as appropriate. If multiple emission locations are sampled using a single FIA, sample at each location for the same amount of time (e.g., 2 minutes) and continue to switch from one location to another for the entire test run. Be sure that total sampling time at each location is the same at the end of the test run. Collect at least 4 separate measurements from each sample point during each hour of testing. Disregard the response measurements at each sampling location until two times the response time of the measurement system has elapsed. Continue sampling for at least 1 minute and record the concentration measurements.

4.3 Background Concentration.

4.3.1 Determination of VOCM Background Concentration.

4.3.1.1 Locate all NDO's of the TTE. A sampling point shall be centrally located outside of the TTE at 4 equivalent diameters from each NDO, if possible. If there are more than 6 NDO's, choose 6 sampling points evenly spaced among the NDO's.

4.3.1.2 Assemble the sample train as shown in Figure 2. Calibrate the FIA and conduct a system check according to the procedures in Sections 5.1 and 5.3.

4.3.1.3 Position the probe at the sampling location.

4.3.1.4 Determine the response time, conduct the system check and sample according to the procedures described in Sections 4.2.3 to 4.2.6.

4.4 Alternative Procedure. The direct interface sampling and analysis procedure described in Section 7.2 of Method 18 may be used to determine the gas VOCM concentration. The system must be designed to collect and analyze at least one sample every 10 minutes.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. Select the calibration gas concentration that most closely approximates that of the fugitive gas emissions to conduct the drift checks. Introduce the zero and calibration gas at the calibration valve assembly and verify that the appropriate gas flow rate and pressure are present at the FIA. Record the measurement system responses to the zero and calibration gases. The performance of the system is acceptable if the difference between the drift check measurement and the value obtained in Section 5.1 is less than 3 percent of the span value. Conduct a system drift check at the end of each run.

5.3 System Check. Inject the high range calibration gas at the inlet of the sampling probe and record the response. The performance of the system is acceptable if the measurement system response is within 5 percent of the value obtained in Section 5.1 for the high range calibration gas. Conduct a system check before each test run.

5.4 Analysis Audit. Immediately before each test analyze an audit cylinder as described in Section 5.2. The analysis audit must agree with the audit cylinder concentration within 10 percent.

6. NOMENCLATURE

A_i = area of NDO i, ft^2~~.~~;

A_N = total area of all NDO's in the enclosure, ft^2~~.~~;

C_{Bi} = corrected average VO~~C~~M concentration of background emissions at point i, ppm propane~~.~~;

C_B = average background concentration, ppm propane~~.~~;

C_{DH} = average measured concentration for the drift check calibration gas, ppm propane~~.~~;

C_{DO} = average system drift check concentration for zero concentration gas, ppm propane~~.~~;

C_{Fj} = corrected average VO~~C~~M concentration of fugitive emissions at point j, ppm propane~~.~~;

C_H = actual concentration of the drift check calibration gas, ppm propane~~.~~;

C_i = uncorrected average background VO~~C~~M concentration measured at point i, ppm propane~~.~~;

C_j = uncorrected average VO~~C~~M concentration measured at point j, ppm propane~~.~~;

G = total VO~~C~~M content of captured emissions, kg~~.~~;

K_1 = 1.830×10^{-6} kg/(m^3-ppm)~~.~~;

n = number of measurement points~~.~~;

Q_{Fj} = average effluent volumetric flow rate corrected to standard conditions at fugitive emissions point j, m^3/min~~.~~;

T_F = total duration of fugitive emissions sampling run, min.

7. CALCULATIONS

7.1 Total VO~~C~~M Fugitive Emissions.

$$F = \sum_{j=1}^{n} (C_{Fj} - C_B)\, Q_{Fj}\, T_F\, K_1 \qquad \text{Eq. 1}$$

7.2 VO~~C~~M Concentration of the Fugitive Emissions at Point j.

$$C_{Fj} = (C_j - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 2}$$

7.3 Background VO~~C~~M Concentration at Point i.

$$C_{Bi} = (C_i - C_{D0}) \frac{C_H}{C_{DH} - C_{D0}} \qquad \text{Eq. 3}$$

7.4 Average Background Concentration.

$$C_B = \frac{\sum_{i=1}^{n} C_{Bi} A_i}{nA_N} \qquad \text{Eq. 5}$$

NOTE: If the concentration at each point is within 20 percent of the average concentration of all points, the terms "A_i" and "A_N" may be deleted from Equation 4.

Procedure L - VO~~C~~M Input

1. INTRODUCTION

1.1 Applicability. This procedure is applicable for determining the input of volatile organic ~~compounds~~materials (VO~~C~~M). It is intended to be used as a segment in the development of liquid/gas protocols for determining VO~~C~~M capture efficiency (CE) for surface coating and printing operations.

1.2 Principle. The amount of VO~~C~~M introduced to the process (L) is the sum of the products of the weight (W) of each VO~~C~~M containing liquid (ink, paint, solvent, etc.) used and its VO~~C~~M content (V). A sample of each VO~~C~~M containing liquid is analyzed with a flame ionization analyzer (FIA) to determine V.

1.3 Estimated Measurement Uncertainty. The measurement uncertainties are estimated for each VO~~C~~M containing liquid as follows: W = ±2.0 percent and V = ±12.0 percent. Based on these numbers, the probable uncertainty for L is estimated at about ±12.2 percent for each VO~~C~~M containing liquid.

1.4 Sampling Requirements. A capture efficiency test shall consist of at least three sampling runs. The sampling time for each run should be at least 8 hours, unless otherwise approved.

1.5 Notes. Because this procedure is often applied in highly explosive areas, caution and care should be exercised in choosing appropriate equipment and installing and using the equipment. Mention of trade names or company products does not constitute endorsement. All gas concentrations (percent, ppm) are by volume, unless otherwise noted.

2. APPARATUS AND REAGENTS

2.1 Liquid Weight.

2.1.1 Balances/Digital Scales. To weigh drums of VO~~C~~M containing liquids to within 0.2 lb.

2.1.2 Volume Measurement Apparatus (Alternative). Volume meters, flow meters, density measurement equipment, etc., as needed to achieve same accuracy as direct weight measurements.

2.2 VO~~C~~M Content (Flame Ionization Analyzer Technique). The liquid sample analysis system is shown in Figures 1 and 2. The following equipment is required:

2.2.1 Sample Collection Can. An appropriately sized metal can to be used to collect VO~~C~~M containing materials. The can must be constructed in such a way that it can be grounded to the coating container.

2.2.2 Needle Valves. To control gas flow.

2.2.3 Regulators. For carrier gas and calibration gas cylinders.

2.2.4 Tubing. Teflon or stainless steel tubing with diameters and lengths determined by connection requirements of equipment. The tubing between the sample oven outlet and the FIA shall be heated to maintain a temperature of 120 ±5°C.

2.2.5 Atmospheric Vent. A tee and 0- to 0.5-liter/min rotameter placed in the sampling line between the carrier gas cylinder and the VO~~C~~M sample vessel to release the excess carrier gas. A toggle valve placed between the tee and the rotameter facilitates leak tests of the analysis system.

2.2.6 Thermometer. Capable of measuring the temperature of the hot water bath to within 1°C.

2.2.7 Sample Oven. Heated enclosure, containing calibration gas coil heaters, critical orifice, aspirator, and other liquid sample analysis components, capable of maintaining a temperature of 120 ±5°C.

2.2.8 Gas Coil Heaters. Sufficient lengths of stainless steel or Teflon tubing to allow zero and calibration gases to be heated to the sample oven temperature before entering the critical orifice or aspirator.

2.2.9 Water Bath. Capable of heating and maintaining a sample vessel temperature of 100 ±5°C.

2.2.10 Analytical Balance. To measure ±0.001 g.

2.2.11 Disposable Syringes. 2-cc or 5-cc.

2.2.12 Sample Vessel. Glass, 40-ml septum vial. A separate vessel is needed for each sample.

2.2.13 Rubber Stopper. Two-hole stopper to accommodate 3.2-mm (1/8-in.) Teflon tubing, appropriately sized to fit the opening of the sample vessel. The rubber stopper should be wrapped in Teflon tape to provide a tighter seal and to prevent any reaction of the sample with the rubber stopper. Alternatively, any leak-free closure fabricated of non-reactive materials and accommodating the necessary tubing fittings may be used.

2.2.14 Critical Orifices. Calibrated critical orifices capable of providing constant flow rates from 50 to 250 ml/min at known pressure drops. Sapphire orifice assemblies (available from O'Keefe Controls Company) and glass capillary tubing have been found to be adequate for this application.

2.2.15 Vacuum Gauge. 0- to 760-mm (0- to 30-in.) Hg U-Tube manometer or vacuum gauge.

2.2.16 Pressure Gauge. Bourdon gauge capable of measuring the maximum air pressure at the aspirator inlet (e.g., 100 psig).

2.2.17 Aspirator. A device capable of generating sufficient vacuum at the sample vessel to create critical flow through the calibrated orifice when sufficient air pressure is present at the aspirator inlet. The aspirator must also provide sufficient sample pressure to operate the FIA. The sample is also mixed with the dilution gas within the aspirator.

2.2.18 Soap Bubble Meter. Of an appropriate size to calibrate the critical orifices in the system.

2.2.19 Organic Concentration Analyzer. An FIA with a span value of 1.5 times the expected concentration as propane; however other span values may be used if it can be demonstrated that they would provide more accurate measurements. The system shall be capable of meeting or exceeding the following specifications:

2.2.19.1 Zero Drift. Less than ±3.0 percent of the span value.

2.2.19.2 Calibration Drift. Less than ±3.0 percent of span value.

2.2.19.3 Calibration Error. Less than ±5.0 percent of the calibration gas value.

2.2.20 Integrator/Data Acquisition System. An analog or digital device or computerized data acquisition system used to integrate the FIA response or compute the average response and record measurement data. The minimum data sampling frequency for computing average or integrated values is one measurement value every 5 seconds. The device shall be capable of recording average values at least once per minute.

2.2.21 Chart Recorder (Optional). A chart recorder or similar device is recommended to provide a continuous analog display of the measurement results during the liquid sample analysis.

2.2.22 Calibration and Other Gases. For calibration, fuel, and combustion air (if required) contained in compressed gas cylinders. All calibration gases shall be traceable to NIST standards and shall be certified by the manufacturer to ±1 percent of the tag value. Additionally, the manufacturer of the cylinder should provide a recommended shelf-life for each calibration gas cylinder over which the concentration does nor change more than ±2 percent from the certified value. For calibration gas values not generally available, alternative methods for preparing calibration gas mixtures, such as dilution systems, may be used with prior approval.

2.2.22.1 Fuel. A 40 percent H_2/60 percent He or 40 percent H_2/60 percent N_2 gas mixture is recommended to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2.2.22.2 Carrier Gas. High purity air with less than 1 ppm of organic material (as propane) or less than 0.1 percent of the span value, whichever is greater.

2.2.22.3 FIA Linearity Calibration Gases. Low-, mid-, and high-range gas mixture standards with nominal propane concentrations of 20-30, 45-55, and 70-80 percent of the span value in air, respectively. Other calibration values and other span values may be used if it can be shown that more accurate measurements would be achieved.

2.2.22.4 System Calibration Gas. Gas mixture standard containing propane in air, approximating the undiluted VO~~C~~M concentration expected for the liquid samples.

3. DETERMINATION OF LIQUID INPUT WEIGHT

3.1 Weight Difference. Determine the amount of material introduced to the process as the weight difference of the feed material before and after each sampling run. In determining the total VO~~C~~M containing liquid usage, account for: (a) the initial (beginning) VO~~C~~M containing liquid mixture; (b) any solvent added during the test run; (c) any coating added during the test run; and (d) any residual VO~~C~~M containing liquid mixture remaining at the end of the sample run.

3.1.1 Identify all points where VO~~C~~M containing liquids are introduced to the process. To obtain an accurate measurement of VO~~C~~M containing liquids, start with an empty fountain (if applicable). After completing the run, drain the liquid in the fountain back into the liquid drum (if possible), and weigh the drum again. Weigh the VO~~C~~M containing liquids to ±0.5 percent of the total weight (full) or ±0.1 percent of the total weight of VO~~C~~M containing liquid used during the sample run, whichever is less. If the residual liquid cannot be returned to the drum, drain the fountain into a preweighed empty drum to determine the final weight of the liquid.

3.1.2 If it is not possible to measure a single representative mixture, then weigh the various components separately (e.g., if solvent is added during the sampling run, weigh the solvent before it is added to the mixture). If a fresh drum of VO~~C~~M containing liquid is needed during the run, then weigh both the empty drum and fresh drum.

3.2 Volume Measurement (Alternative). If direct weight measurements are not feasible, the tester may use volume meters and flow rate meters (and density measurements) to determine the weight of liquids used if it can be demonstrated that the technique produces results equivalent to the direct weight measurements. If a single representative mixture cannot be measured, measure the components separately.

4. DETERMINATION OF VO~~C~~M CONTENT IN INPUT LIQUIDS

4.1 Collection of Liquid Samples.

4.1.1 Collect a 100-ml or larger sample of the VO~~C~~M containing liquid mixture at each application location at the beginning and end of each test run. A separate sample should be taken of each VO~~C~~M containing liquid added to the application mixture during the test run. If a fresh drum is needed during the sampling run, then obtain a sample from the fresh drum.

4.1.2 When collecting the sample, ground the sample container to the coating drum. Fill the sample container as close to the rim as possible to minimize the amount of headspace.

4.1.3 After the sample is collected, seal the container so the sample cannot leak out or evaporate.

4.1.4 Label the container to identify clearly the contents.

4.2 Liquid Sample VO~~C~~M Content.

4.2.1 Assemble the liquid VO~~C~~M content analysis system as shown in Figure 1.

4.2.2 Permanently identify all of the critical orifices that may be used. Calibrate each critical orifice under the expected operating conditions (i.e., sample vacuum and temperature) against a volume meter as described in Section 5.3.

4.2.3 Label and tare the sample vessels (including the stoppers and caps) and the syringes.

4.2.4 Install an empty sample vessel and perform a leak test of the system. Close the carrier gas valve and atmospheric vent and evacuate the sample vessel to 250 mm (10 in.) Hg absolute or less using the aspirator. Close the toggle valve at the inlet to the aspirator and observe the vacuum for at least one minute. If there is any change in the sample pressure, release the vacuum, adjust or repair the apparatus as necessary and repeat the leak test.

4.2.5 Perform the analyzer calibration and linearity checks according to the procedure in Section 5.1. Record the responses to each of the calibration gases and the back-pressure setting of the FIA.

4.2.6 Establish the appropriate dilution ratio by adjusting the aspirator air supply or substituting critical orifices. Operate the aspirator at a vacuum of at least 25 mm (1 in.) Hg greater than the vacuum necessary to achieve critical flow. Select the dilution ratio so that the maximum response of the FIA to the sample does not exceed the high-range calibration gas.

4.2.7 Perform system calibration checks at two levels by introducing compressed gases at the inlet to the sample vessel while the aspirator and dilution devices are operating. Perform these checks using the carrier gas (zero concentration) and the system calibration gas. If the response to the carrier gas exceeds ±0.5 percent of span, clean or repair the apparatus and repeat the check. Adjust the dilution ratio as necessary to achieve the correct response to the upscale check, but do not adjust the analyzer calibration. Record the identification of the orifice, aspirator air supply pressure, FIA back-pressure, and the responses of the FIA to the carrier and system calibration gases.

4.2.8 After completing the above checks, inject the system calibration gas for approximately 10 minutes. Time the exact duration of the gas injection using a stopwatch. Determine the area under the FIA response curve and calculate the system response factor based on the sample gas flow rate, gas concentration, and the duration of the injection as compared to the integrated response using Equations 2 and 3.

4.2.9 Verify that the sample oven and sample line temperatures are 120 ±5°C and that the water bath temperature is 100 ±5°C.

4.2.10 Fill a tared syringe with approximately 1 g of the VO~~C~~M containing liquid and weigh it. Transfer the liquid to a tared sample vessel. Plug the sample vessel to minimize sample loss. Weigh the sample vessel containing the liquid to determine the amount of sample actually received. Also, as a quality control check, weigh the empty syringe to determine the amount of material delivered. The two coating sample weights should agree within ±0.02 g. If not, repeat the procedure until an acceptable sample is obtained.

4.2.11 Connect the vessel to the analysis system. Adjust the aspirator supply pressure to the correct value. Open the valve on the carrier gas supply to the sample vessel and adjust it to provide a slight excess flow to the atmospheric vent. As soon as the initial response of the FIA begins to decrease, immerse the sample vessel in the water bath. (Applying heat to the sample vessel too soon may cause the FID response to exceed the calibrated range of the instrument, and thus invalidate the analysis.)

4.2.12 Continuously measure and record the response of the FIA until all of the volatile material has been evaporated from the sample and the instrument response has returned to the baseline (i.e., response less than 0.5 percent of the span value). Observe the aspirator supply pressure, FIA back-pressure, atmospheric vent, and other system operating parameters during the run; repeat the analysis procedure if any of these parameters deviate from the values established during the system calibration checks in Section 4.2.7. After each sample perform the drift check described in Section 5.2. If the drift check results are acceptable, calculate the VO~~C~~M content of the sample using the equations in Section 7. Integrate the area under the FIA response curve, or determine the average concentration response and the duration of sample analysis.

5. CALIBRATION AND QUALITY ASSURANCE

5.1 FIA Calibration and Linearity Check. Make necessary adjustments to the air and fuel supplies for the FIA and ignite the burner. Allow the FIA to warm up for the period recommended by the manufacturer. Inject a calibration gas into the measurement system and adjust the back-pressure regulator to the value required to achieve the flow rates specified by the manufacturer. Inject the zero- and the high-range calibration gases and adjust the analyzer calibration to provide the proper responses. Inject the low- and mid-range gases and record the responses of the measurement system. The calibration and linearity of the system are acceptable if the responses for all four gases are within 5 percent of the respective gas values. If the performance of the system is not acceptable, repair or adjust the system and repeat the linearity check. Conduct a calibration and linearity check after assembling the analysis system and after a major change is made to the system.

5.2 Systems Drift Checks. After each sample, repeat the system calibration checks in Section 4.2.7 before any adjustments to the FIA or measurement system are made. If the zero or calibration drift exceeds ±3 percent of the span value, discard the result and repeat the analysis.

5.3 Critical Orifice Calibration.

5.3.1 Each critical orifice must be calibrated at the specific operating conditions that it will be used. Therefore, assemble all components of the liquid sample analysis system as shown in Figure 3. A stopwatch is also required.

5.3.2 Turn on the sample oven, sample line, and water bath heaters and allow the system to reach the proper operating temperature. Adjust the aspirator to a vacuum of 380 mm (15 in.) Hg vacuum. Measure the time required for one soap bubble to move a known distance and record barometric pressure.

5.3.3 Repeat the calibration procedure at a vacuum of 406 mm (16 in.) Hg and at 25-mm (1-in.) Hg intervals until three consecutive determinations provide the same flow rate. Calculate the critical flow rate for the orifice in ml/min at standard conditions. Record the vacuum necessary to achieve critical flow.

6. NOMENCLATURE

A_L = area under the response curve of the liquid sample, area count~~.~~;

A_S = area under the response curve of the calibration gas, area count~~.~~;

C_S = actual concentration of system calibration gas, ppm propane~~.~~;

K = 1.830×10^{-9} g/(ml-ppm)~~.~~;

L = total VO~~C~~M content of liquid input, kg~~.~~;

M_L = mass of liquid sample delivered to the sample vessel, g~~.~~;

q = flow rate through critical orifice, ml/min~~.~~;

RF = liquid analysis system response factor, g/area count~~.~~;

T_S = total gas injection time for system calibration gas during integrator calibration, min~~.~~;

V_{Fj} = final VO~~C~~M fraction of VO~~C~~M containing liquid j~~.~~;

V_{Ij} = initial VO~~C~~M fraction of VO~~C~~M containing liquid j~~.~~;

V_{Aj} = VO~~C~~M fraction of VO~~C~~M containing liquid j added during the run~~.~~;

V = VO~~C~~M fraction of liquid sample~~.~~;

W_{Fj} = weight of VO~~C~~M containing liquid j remaining at end of the run, kg~~.~~;

W_{Ij} = weight of VO~~C~~M containing liquid j at beginning of the run, kg~~.~~;

W_{Aj} = weight of VO~~C~~M containing liquid j added during the run, kg.

7. CALCULATIONS

7.1 Total VO~~C~~M Content of the Input VO~~C~~M Containing Liquid.

$$L = \sum_{j=1}^{n} V_{Ij}\ W_{Ij} = V_{Fj}\ W_{Fj} + \sum_{j=1}^{n} V_{Aj}\ W_{Aj} \quad \underset{j=1}{\overset{n}{R}} \qquad \text{Eq. 1}$$

7.2 Liquid Sample Analysis System Response Factor for Systems Using Integrators, Grams/Area Counts.

$$RF = \frac{C_S\ q\ T_S\ K}{A_S} \qquad \text{Eq. 2}$$

7.3 VO~~C~~M Content of the Liquid Sample.

$$V = \frac{A_L\ RF}{M_L} \qquad \text{Eq. 3}$$

Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure

1. INTRODUCTION

1.1 Applicability. This procedure is used to determine whether a permanent or temporary enclosure meets the criteria of a total enclosure.

1.2 Principle. An enclosure is evaluated against a set of criteria. If the criteria are met and if all the exhaust gases are ducted to a control device, then the volatile organic ~~compounds~~materials (VO~~C~~M) capture efficiency (CE) is assumed to be 100 percent and CE need not be measured. However, if part of the exhaust gas stream is not ducted to a control device, CE must be determined.

2. DEFINITIONS

2.1 Natural Draft Opening (NDO) -- Any permanent opening in the enclosure that remains open during operation of the ~~facility~~

emission unit and is not connected to a duct in which a fan is installed.

2.2 Permanent Total Enclosure (PTE) -- A permanently installed enclosure that completely surrounds an ~~source of~~ emission~~s~~unit such that all VO~~C~~M emissions are captured and contained for discharge through a control device.

2.3 Temporary Total Enclosure (TTE) -- A temporarily installed enclosure that completely surrounds an ~~source of~~ emission~~s~~unit such that all VO~~C~~M emissions are captured and contained for discharge through ducts that allow for the accurate measurement of VO~~C~~M rates.

3. CRITERIA OF A TEMPORARY TOTAL ENCLOSURE

3.1 Any NDO shall be at least 4 equivalent opening diameters from each VO~~C~~M emitting point.

3.2 Any exhaust point from the enclosure shall be at least 4 equivalent duct or hood diameters from each NDO.

3.3 The total area of all NDO's shall not exceed 5 percent of the surface area of the enclosure's four walls, floor, and ceiling.

3.4 The average facial velocity (FV) of air through all NDO's shall be at least 3,600 m/hr (200 fpm). The direction of air through all NDO's shall be into the enclosure.

3.5 All access doors and windows whose areas are not included in Section 3.3 and are not included in the calculation in Section 3.4 shall be closed during routine operation of the ~~process~~emission unit.

4. CRITERIA OF A PERMANENT TOTAL ENCLOSURE

4.1 Same as Sections 3.1 and 3.3 - 3.5.

4.2 All VO~~C~~M emissions must be captured and contained for discharge through a control device.

5. PROCEDURE

5.1 Determine the equivalent diameters of the NDO's and determine the distances from each VO~~C~~M emitting point to all NDO's. Determine the equivalent diameter of each exhaust duct or hood and its distance to all NDO's. Calculate the distances in terms of equivalent diameters. The number of equivalent diameters shall be at least 4.

5.2 Measure the total area (A_t) of the enclosure and the total area (A_N) of all NDO's of the enclosure. Calculate the NDO to enclosure area ratio (NEAR) as follows:

$$NEAR = A_N/A_t$$

The NEAR must be < 0.05.

5.3 Measure the volumetric flow rate, corrected to standard conditions, of each gas stream exiting the enclosure through an exhaust duct or hood using EPA Method 2. In some cases (e.g., when the building is the enclosure), it may be necessary to measure the volumetric flow rate, corrected to standard conditions, of each gas stream entering the enclosure through a forced makeup air duct using Method 2. Calculate FV using the following equation:

$$FV = [Q_O - Q_I]/A_N$$

where:

Q_O = the sum of the volumetric flow from all gas streams exiting the enclosure through an exhaust duct or hood.

Q_I = the sum of the volumetric flow from all gas streams into the enclosure through a forced makeup air duct; zero, if there is no forced makeup air into the enclosure.

A_N = total area of all NDO's in enclosure.

The FV shall be at least 3,600 m/hr (200 fpm).

5.4 Verify that the direction of air flow through all NDO's is inward. Use streamers, smoke tubes, tracer gases, etc. Strips of plastic wrapping film have been found to be effective. Monitor the direction of air flow at intervals of at least 10 minutes for at least 1 hour.

6. QUALITY ASSURANCE

6.1 The success of this protocol lies in designing the TTE to simulate the conditions that exist without the TTE, i.e., the effect of the TTE on the normal flow patterns around the affected ~~facility~~emission unit or the amount of fugitive VO~~C~~M emissions should be minimal. The TTE must enclose the application stations, coating reservoirs, and all areas from the application station to the oven. The oven does not have to be enclosed if it is under negative pressure. The NDO's of the temporary enclosure and a fugitive exhaust fan must be properly sized and placed.

6.2. Estimate the ventilation rate of the TTE that best simulates the conditions that exist without the TTE, i.e., the effect of the TTE on the normal flow patterns around the affected ~~facility~~emission unit or the amount of fugitive VO~~C~~M emissions should be minimal. Figure 1 may be used as an aid. Measure the concentration (C_G) and flow rate (Q_G) of the captured gas stream, specify a safe concentration (C_F) for the fugitive gas stream, estimate the CE, and then use the plot in Figure 1 to determine the volumetric flowrate of the fugitive gas stream (Q_F). A fugitive VO~~C~~M emission exhaust fan that has a variable flow control is desirable.

6.2.1 Monitor the concentration of VO~~C~~M into the capture device without the TTE. To minimize the effect of temporal variation on the captured emissions, the baseline measurement should be made over as long a time period as practical. However, the process conditions must be the same for the measurement in Section 6.2.3 as they are for this baseline measurement. This may require short measuring times for this quality control check before and after the construction of the TTE.

6.2.2 After the TTE is constructed, monitor the VO~~C~~M concentration inside the TTE. This concentration shall not continue to increase and must not exceed the safe level according to OSHA requirements for permissible exposure limits. An increase in VO~~C~~M concentration indicates poor TTE design or poor capture efficiency.

6.2.3 Monitor the concentration of VO~~C~~M into the capture device with the TTE. To limit the effect of the TTE on the process, the VO~~C~~M concentration with and without the TTE must be within ±10 percent. If the measurements do not agree, adjust the ventilation rate from the TTE until they agree within 10 percent.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.Appendix C
Reference Test Methods ~~and Procedures~~For Air Oxidation Processes

Introduction

This Appendix presents the reference methods and procedures required for implementing Reasonably Available Control Technology (RACT). Methods and procedures are identified for two types of RACT implementation:

a) Determination of VO~~C~~M destruction efficiency for evaluating compliance with the 98 weight percent VO~~C~~M reduction or 20 ppmv emission limit specified in Sections 215.520 through 215.527; and

b) Determination of offgas flowrate, hourly emissions and stream net heating value for calculating TRE.

All reference methods identified in this Appendix refer to the reference methods specified at 40 CFR 60, Appendix A, incorporated by reference in Section 215.105.

VO~~C~~M DESTRUCTION EFFICIENCY DETERMINATION

The following reference methods and procedures are required for determining compliance with the percent destruction efficiency specified in Sections 215.520 through 215.527.

a) Reference Method 1 or 1A for selection of the sampling site. The control device inlet sampling site for determination of vent stream molar composition or total organic compound destruction efficiency shall be prior to the inlet of any control device and after all recovery devices.

b) Reference Methods 2, 2A, 2C or 2D for determination of the volumetric flowrate.

c) Reference Method 3 to measure oxygen concentration of the air dilution correction. The emission sample shall be corrected to 3 percent oxygen.

d) Reference Method 18 to determine the concentration of total organic compounds (minus methane and ethane) in the control device outlet and total organic compound reduction efficiency of the control device.

TRE DETERMINATION

The following reference methods and procedures are required for determining the offgas flowrate, hourly emissions, and the net heating value of the gas combusted to calculate the vent stream TRE.

a) Reference Method 1 or 1A for selection of the sampling site. The sampling site for the vent stream flowrate and molar composition determination prescribed in (b) and (c) shall be prior to the inlet of any combustion device, prior to any post-reactor dilution of the stream with air and prior to any post-reactor introduction of halogenated compounds into the vent stream. Subject to the preceding restrictions on the sampling site, it shall be after the final recovery device. If any gas stream other than the air oxidation vent stream is normally conducted through the recovery system of the affected facility, such stream shall be rerouted or turned off while the vent stream is sampled, but shall be routed normally prior to the measuring of the initial value of the monitored parameters for determining compliance with the recommended RACT. If the air oxidation vent stream is normally routed through any equipment which is not a part of the air oxidation process as defined in 35 Ill. Adm. Code 211.122, such equipment shall be bypassed by the vent stream while the vent stream is sampled, but shall not be bypassed during the measurement of the initial value of the monitored parameters for determining compliance with Subpart V.

b) The molar composition of the vent stream shall be determined using the following methods:

1) Reference Method 18 to measure the concentration of all organics, including those containing halogens, unless a significant portion of the compounds of interest are polymeric (high molecular weight), can polymerize before analysis or have low vapor pressures, in which case Reference Method 25(a) shall be used.

2) ASTM D1946-67 (reapproved 1977), incorporated by reference in Section 215.105, to measure the concentration of carbon monoxide and hydrogen.

3) Reference Method 4 to measure the content of water vapor, if necessary.

c) The volumetric flowrate shall be determined using Reference Method 2, 2A, 2C or 2D, as appropriate.

d) The net heating value of the vent stream shall be calculated using the following equation:

$$H = K \sum_{i=1}^{n} CiHi$$

Where:

H = Net heating value of the sample, MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of F (vent stream flowrate) below.

K = Constant, 1.740×10^{-7} (1/ppm) (mole/scm) (MJ/kcal) where standard temperature for mole/scm is 20°C.

Ci = Concentration of sample component i, reported on a wet basis, in ppm, as measured by Reference Method 18 or ASTM D1946-67 (reapproved 1977), incorporated by reference in Section 215.105.

Hi = Net heat of combustion of sample component i, kcal/mole based on combustion at 25°C and 760 mm Hg. If published values are not available or cannot be calculated, the heats of combustion of vent stream components are required to be determined using ASTM D2382-76, incorporated by reference in Section 215.105.

e) The emission rate of total organic compounds in the process vent stream shall be calculated using the following equation:

$$E = K \quad F \sum_{i=1}^{n} CiMi$$

Where:

E = Emission rate of total organic compounds (minus methane and ethane) in the sample in kg/hr~~.~~;

K = Constant 2.494×10^{-6} (1/ppm) (mole/scm) (kg/g) (min/hr), where standard temperature for (mole/scm) is 20°C~~.~~;

Mi = Molecular weight of sample component i (g/mole)~~.~~;

F = Vent stream flowrate (scm/min), at a standard temperature of 20°C.

f) The total vent stream concentration (by volume) of compounds containing halogens (ppmv, by compound) shall be summed from the individual concentrations of compounds containing halogens which were measured by Reference Method 18.

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)

Section 219.Appendix D
Coefficients for the Total Resource Effectiveness Index (TRE) Equation

This Appendix contains values for the total resource effectiveness index (TRE) equation in Subpart V.

If a flow rate falls exactly on the boundary between the indicated ranges, the operator shall use the row in which the flow rate is maximum.

COEFFICIENTS FOR TRE EQUATION FOR CHLORINATED PROCESS VENT STREAMS WITH NET HEATING VALUE LESS THAN OR EQUAL TO 3.5 MJ/scm

FLOW RATE (scm/min) Min.	Max.	a	b	c	d	e	f
0.0	13.5	48.73	0.	0.404	-0.1632	0.	0.
13.5	700.	42.35	0.624	0.404	-0.1632	0.	0.0245
700.	1400.	84.38	0.678	0.404	-0.1632	0.	0.0346
1400.	2100.	126.41	0.712	0.404	-0.1632	0.	0.0424
2100.	2800.	168.44	0.747	0.404	-0.1632	0.	0.0490
2800.	3500.	210.47	0.758	0.404	-0.1632	0.	0.0548

COEFFICIENTS FOR TRE EQUATION FOR CHLORINATED PROCESS VENT STREAMS WITH NET HEATING VALUE GREATER THAN 3.5 MJ/scm

FLOW RATE (scm/min) Min.	Max.	a	b	c	d	e	f
0.	13.5	47.76	0.	-0.292	0.	0.	0.
13.5	700.	41.58	0.605	-0.292	0.	0.	0.0245
700.	1400.	82.84	0.658	-0.292	0.	0.	0.0346
1400.	2100.	123.10	0.691	-0.292	0.	0.	0.0424
2100.	2800.	165.36	0.715	-0.292	0.	0.	0.0490
2800.	3500.	206.62	0.734	-0.292	0.	0.	0.0548

COEFFICIENTS FOR TRE EQUATION FOR NONCHLORINATED PROCESS VENT STREAMS WITH NET HEATING VALUE LESS THAN OR EQUAL TO 0.48 MJ/scm

FLOW RATE (scm/min) Min.	Max.	a	b	c	d	e	f
0.	13.5	19.05	0.	0.113	-0.214	0.	0.
13.5	1350.	16.61	0.239	0.113	-0.214	0.	0.0245
1350.	2700.	32.91	0.260	0.113	-0.214	0.	0.0346
2700.	4050.	49.21	0.273	0.113	-0.214	0.	0.0424

COEFFICIENTS FOR TRE EQUATION FOR NONCHLORINATED PROCESS VENT STREAMS
WITH NET HEATING VALUE GREATER THAN 0.48 AND LESS THAN OR EQUAL TO 1.9 MJ/scm

FLOW RATE (scm/min)							
Min.	Max.	a	b	c	d	e	f
0.	13.5	19.74	0.	0.400	-0.202	0.	0.
13.5	1350.	18.30	0.138	0.400	-0.202	0.	0.0245
1350.	2700.	36.28	0.150	0.400	-0.202	0.	0.0346
2700.	4050.	54.26	0.158	0.400	-0.202	0.	0.0424

COEFFICIENTS FOR TRE EQUATION FOR NONCHLORINATED PROCESS VENT STREAMS
WITH NET HEATING VALUE GREATER THAN 1.9 AND LESS THAN OR EQUAL TO 3.6 MJ/scm

FLOW RATE (scm/min)							
Min.	Max.	a	b	c	d	e	f
.0	13.5	15.24	0.	0.033	0.	0.	0.
13.5	1190.	13.63	0.157	0.033	0.	0.	0.0245
1190.	2380.	26.95	0.171	0.033	0.	0.	0.0346
2380.	3570.	40.27	0.179	0.033	0.	0.	0.0424

COEFFICIENTS FOR TRE EQUATION FOR NONCHLORINATED PROCESS VENT STREAMS WITH
NET HEATING VALUE GREATER THAN 3.6 MG/scm

FLOW RATE (scm/min)							
Min.	Max.	a	b	c	d	e	f
0.	13.5	15.24	0.	0.	0.0090	0.	0.
13.5	1190.	13.63	0.	0.	0.0090	0.0503	0.0245
1190.	2380.	26.95	0.	0.	0.0090	0.0546	0.0346
2380.	3570.	40.27	0.	0.	0.0090	0.0573	0.0424

(Source: Amended at ___ Ill. Reg. ______, effective ______________ __________)