STATE OF VERMONT
AGENCY OF NATURAL RESOURCES

AIR POLLUTION CONTROL REGULATIONS

INCLUDING AMENDMENTS TO THE REGULATIONS
ADOPTED THROUGH: ~~NOVEMBER~~ [MONTH] ~~30~~xx, ~~2016~~2018

AIR QUALITY & CLIMATE DIVISION
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AGENCY OF NATURAL RESOURCES
DAVIS 2
ONE NATIONAL LIFE DRIVE
MONTPELIER, VERMONT 05620-3802
TELEPHONE: (802) 828-1288
WEBSITE: *http://www.anr.state.vt.us/air/*

PERSONS REQUIRING ADDITIONAL INFORMATION REGARDING THESE REGULATIONS OR OTHER MATTERS RELATING TO AIR POLLUTION IN VERMONT SHOULD WRITE TO:

HEIDI HALES, DIRECTOR
AIR QUALITY & CLIMATE DIVISION
DAVIS 2
ONE NATIONAL LIFE DRIVE
MONTPELIER, VERMONT 05620-3802

VERMONT AIR POLLUTION CONTROL REGULATIONS

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AGENCY OF NATURAL RESOURCES

MONTPELIER, VERMONT

ENVIRONMENTAL PROTECTION REGULATIONS

CHAPTER 5

AIR POLLUTION CONTROL

SUBCHAPTER I. DEFINITIONS*

5-101 AS USED IN THIS PART, ALL TERMS NOT DEFINED HEREIN SHALL HAVE THE MEANING GIVEN THEM IN THE ACT

"Act" refers to the Air Pollution Control Act, 10 V.S.A. §551 et seq., as amended.

"Action Level" means a rate of *emissions* of a *hazardous air contaminant* as specified in Appendix C or as may be determined under Section 5-261(3) of these regulations. *Action Levels* are used to determine the applicability of Section 5-261 to *stationary sources* and shall be derived in accordance with the method prescribed in Appendix E of these regulations.

"Actual Emissions" means the rate of *emissions*, as of a particular date, which equals the average rate at which a source actually emitted the contaminant during the preceding two-year period. The *Secretary* may allow the use of a different time period upon a determination that it is more representative of normal source operation. For any source which has not begun normal operations on the particular date, *actual emissions* shall equal the *allowable emissions* of the source on that date.

"Adverse Impact on Visibility" means *visibility impairment* which, as determined on a case-by-case basis by the *Air Pollution Control Officer*, interferes with the management, protection, preservation or enjoyment of a *person's* visual experience when visiting any *sensitive area* or any *Class I Federal area*. Any such determination will take into account the geographic extent, intensity, duration, frequency and time of *visibility impairment* and how these factors correlate with (1) times of visitor use and (2) the frequency and timing of natural conditions that reduce visibility.

"Agency" means the Agency of Natural Resources.

* NOTE: All terms defined within these regulations are printed in italics wherever they appear. Terms which are used in all subchapters of the regulations are defined in Section 5-101, while supplemental definitions intended for use with a specific section of the regulations are found within that section.

"Air Contaminant" means dust, fumes, mist, *smoke*, other *particulate matter*, vapor, gas, odorous substances, or any combination thereof.

"Air Pollution" means the presence in the outdoor atmosphere of one or more *air contaminants* in such quantities, and duration as is or tends to be injurious to human health or welfare, animal or plant life, or property, or would unreasonably interfere with the enjoyment of life, or property. Such effects may result from direct exposure to *air contaminants*, from deposition of *air contaminants* to other environmental media, or from alterations caused by *air contaminants* to the physical or chemical properties of the atmosphere.

"Air Pollution Control Officer" means the *person* whose functional responsibility is to direct and coordinate the *air pollution* control activities and program for the State.

"*Air Pollution Control Regulations*" means Chapter V of the Vermont Environmental Protection Regulations.

"Air Quality Impact Evaluation" means an analysis of the degree to which *emissions* from stationary or *motor vehicles* contribute to *air contaminant* concentrations in the *ambient air*. Such analysis shall include air quality modeling or other methods determined by the *Secretary* to be reliable.

"Allowable Emissions" means the *emission* rate calculated using the maximum rated capacity of the source and, if applicable, either:

(a) The applicable *emission* standard contained in these regulations, if any, or

(b) The *emission* rate or design, operational or equipment standard specified in any order or agreement issued under these regulations.

"Ambient Air" means that portion of the atmosphere, external to buildings, to which the general public has access.

"Ambient Air Quality Standards" means any standard which establishes the largest allowable concentration of a specific *air contaminant* in the *ambient air* space as specified in Subchapter III of these regulations.

"Applicant" means a *person* who seeks the approval of the *Secretary*, as required by Section 5-501, prior to the construction, installation or *modification* of a *stationary source*.

"ASTM" means the American Society for Testing and Materials.

"Attainment Area" (see definition of *nonattainment area*).

"Brake Horsepower" means the maximum continuous brake horsepower output rating for an engine as specified by the manufacturer.

"Bulk Gasoline Plant" means a *gasoline* storage and distribution facility with an average daily throughput of 20,000 gallons (76,000 liters) of *gasoline* or less on a 30-day rolling average.

"Bulk Gasoline Terminal" means a *gasoline* storage and distribution facility with an average daily throughput of more than 20,000 gallons (76,000 liters) of *gasoline* on a 30-day rolling average.

"C.F.R." means the Code of Federal Regulations.

"Capture Efficiency" means the weight per unit time of *VOC* entering a *capture system* and delivered to a control device divided by the weight per unit time of total *VOC* generated by a source of *VOC*, expressed as a percentage.

"Capture System" means all equipment (including, but not limited to, hoods, ducts, fans, booths, ovens, dryers, etc.) that contains, collects, and transports an *air contaminant* to a *control device*.

"Class I Federal Area" means any area identified in 40 *C.F.R.* 81, Subpart D.

"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, sealants, adhesives, inks, maskants, and temporary protective coatings.

"Coating Unit" means a series of one or more *coating* applicators and any associated drying area and/or *oven* wherein a *coating* is applied dried and/or cured. A *coating unit* 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 to have an *oven* or a flashoff area in order to be included in this definition.

"Combustion Contaminants" are *air contaminants* discharged into the atmosphere from the burning of any kind of material containing carbon in a free or combined state.

"Combustion Efficiency (C.E.)" means a measure of the completeness of combustion, determined by the measurement of the proportion by volume of carbon dioxide (CO_2) and carbon monoxide (CO) in *flue gas* (on a dry basis) where;

$$C.E.(\%) = \frac{CO_2}{(CO_2 + CO)} \times 100$$

"Commence Operation" means to begin using, on a full time basis, any equipment in a manner that represents normal operational procedures.

"Control Device" means equipment (such as an incinerator or carbon adsorber) used to reduce, by destruction or removal, the amount of *air contaminants* in an air stream prior to discharge to the *ambient air*.

"*Crematory*" means an *incinerator* used solely to reduce the volume and weight of human and animal remains, limited amounts of associated surgical wastes including but not limited to disposable sharps, gloves, gowns and dressings, and associated combustible waste containers which have been approved by the *Air Pollution Control Officer*.

"Emergency use engine" means an engine used only for emergency purposes and up to 100 hours per year for routine testing and maintenance. Emergency purposes are limited to periods of time when:

(1) The usual source of power, heat or lighting is temporarily unavailable due to reasons beyond the reasonable control of the owner/operator;

(2) The Independent System Operator has determined a power capacity deficiency exists and has implemented a voltage reduction of five (5) percent or more of normal operating voltage; or

(3) A fire or flood makes it necessary to pump water to minimize property damage.

"Emission" means a release of *air contaminants* into the *ambient air* space.

"Emission Reduction Credit" or *"ERC"* means the certified quantity of an *emission* reduction from a source that may be stored or used as described in Section 5-502.

"*EPA*" means the Federal Environmental Protection Agency, the Administrator of the Environmental Protection Agency, or the Administrator's designee.

"Equivalent Method" means any method of sampling and/or analyzing for an *air contaminant* which has been demonstrated to the *Air Pollution Control Officer's* satisfaction to have a consistent and quantitatively known relationship to a reference method under specific conditions.

"Federal Land Manager" means the *Secretary* of the department with authority over a *Class I Federal area* or his or her representative.

"*Federally Enforceable"* means all limitations and conditions which are enforceable by the U.S. Environmental Protection Agency, whether contained in federal regulations, a state implementation plan, or construction or operating permits.

"*Flashoff Area*" means the space between the *coating* application area and the *oven*.

"Flue Gas" means *air contaminants* which enter the *ambient air* through a flue or *stack*.

"Forest Land Area" means at least 25 acres of land that is at least 10% stocked with trees of any size.

"Fossil Fuel" means coal, coke, distillate oil, residual oil, and natural gas.

"Fuel" means any form of combustible matter--solid, liquid or gas, including combustible *refuse*.

"Fuel-Burning Equipment" means any individual furnace, boiler, and/or apparatus used in the process of burning *fuel* for the primary purpose of producing heat or power.

"Fuel Oil" means a liquid or liquefiable petroleum product either virgin or *rerefined* which is burned for the generation of heat or power and derived, whether in whole or in part, from crude oil.

"*Fugitive Emissions*" means *air contaminant(s)* emitted into the *ambient air* from points other than a *stack*. For purposes of determining the applicability of Subchapter V and Subchapter X of the *Air Pollution Control Regulations*, "*fugitive emissions*" shall include only those *emissions* which are reasonably quantifiable.

"Fugitive Particulate Matter" means any *particulate matter* generated by a process operation which is emitted into the *ambient air* space from points other than a *stack*.

"Garbage" -- waste resulting from distribution, preparation and serving of food.

"Gaseous Matter" means any material that exists in the gaseous state at *standard conditions*.

"Gasoline" means any petroleum distillate having a *Reid vapor pressure* of four pounds per square inch (27.6 kilopascals) or greater.

"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*.

"Gasoline Tank Truck" means a delivery tank truck with a capacity of 4000 gallons or greater used at *bulk gasoline plants*, *bulk gasoline terminals* or *gasoline* dispensing facilities that is loading or unloading *gasoline*.

"*Greenhouse Gases*" means carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and any other chemical or physical substance emitted into the air that the Secretary may reasonably anticipate to cause or contribute to climate change.

"Hazardous Air Contaminant" means an *air contaminant* which in the judgment of the *Secretary*, taking into account its quantity, concentration or physical, chemical or infectious characteristics, causes, or contributes to, *air pollution* which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness.

"*Hazardous Air Pollutant (HAP)*" means any air pollutant listed in or pursuant to Section 112(b) of the federal Clean Air Act.

"Hazardous Ambient Air Standard (HAAS)" means the highest acceptable concentration in the *ambient air* of a *hazardous air contaminant* as specified in Appendix C or as may be determined under Section 5-261(6) of these regulations. All *HAAS's* shall be derived in accordance with the methods prescribed in Appendix D of these regulations.

"Hazardous Most Stringent Emission Rate (HMSER)" means a rate of *emissions*, including a visible *emissions* standard, which the *Secretary*, on a case-by-case basis, determines is achievable for a *stationary source* based on the lowest *emission* rate achieved in practice by such category of source. If a source demonstrates that due to economic impacts and costs, it cannot achieve the lowest *emission* rate achieved in practice by such source category, *HMSER* shall be the lowest *emission* rate which the *Secretary* determines said source is capable of achieving, *HMSER* may be achieved through application of pollution

control equipment, production processes or techniques, equipment design, work practices, chemical substitution, or innovative pollution control techniques. In no event shall application of *HMSER* permit a *stationary source* to emit any contaminants in excess of any Federal *emission* standard or any *emission* standard in these regulations.

"Hearing Officer" means an employee or representative of the *Agency* appointed by the *Secretary* to hear any or all matters in any case properly before the *Secretary* under Subchapter VI of these regulations.

"Heat Input" shall be the aggregate heat content of all *fuels* introduced into any *fuel burning equipment*. For the purposes of review of the construction or installation of an *air contaminant* source, the *heat input* value used shall be the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater.

"Horsepower (H.P.)" is a unit that is equal to 10 square feet of boiler heating surface.

"Implementation Plan for the Protection of Visibility in Vermont" means the plan with that name developed for the purpose of meeting the requirements contained in Section 169A of the Clean Air Act (42 U.S.C. 7401 et seq.).

"Incinerator" means any structure or furnace in which combustion takes place, the primary purpose of which is the reduction in volume and weight of an unwanted material.

"*Leak Free*" means no more than 3 drops per minute of product is leaked.

"Loading Rack" means an aggregation or combination of *gasoline* loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specified loading space.

"Major Modification" means any *modification* of a *major stationary source* that would result in a *significant* increase in *actual emissions* of any *air contaminant*.

"*Major Source of HAPs*" means any stationary source that has allowable emissions, in the aggregate, of 10 tons per year or more of any single HAP, 25 tons per year or more of any combination of HAPs, or such lesser quantity that EPA may establish by rule.

"Major Stationary Source" means any *stationary source* or *modification* whose *allowable emissions* of any *air contaminant,* except for lead and *greenhouse gases*, are equal to or greater than 50 *tons* per year. For the *air contaminant* lead, *"major stationary source"* means any *stationary source* or *modification* whose *allowable emissions* of lead are equal to or greater than five *tons* per year. For the air contaminant that is *greenhouse gases*, "major stationary source" means any *stationary source* or *modification* whose allowable emissions of total greenhouse gases are:

(1) On a mass basis, equal to or greater than the thresholds in 40 C.F.R. §51.166(b)(1)(i), and

(2) On a carbon dioxide equivalent (CO_2e) basis, subject to regulation at that stationary source or *modification*.

"*Material safety data sheet (MSDS)*" means the documentation required for hazardous chemicals by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 C.F.R. 1910) for a solvent, cleaning material, contact *adhesive*, *coating*, or other material that identifies select reportable hazardous ingredients of the material, safety and health considerations, and handling procedures.

"*Modification*" means any physical change in, or change in the method of operation of, a *stationary source* which increases the actual emission rate of any *air contaminant*, regardless of any *emission* reductions achieved at the source. A physical change or change in the method of operation shall not include:

(a) Routine maintenance, repair and replacement; or

(b) An increase in the hours of operation or in the production rate, unless such change is prohibited under any condition of a permit issued pursuant to these Regulations.

"Most Stringent Emission Rate (MSER)" a rate of *emissions* which the *Secretary*, on a case-by-case basis, determines is achievable for a source based on the lowest *emission* rate achieved in practice by such category of source, unless the source demonstrates it cannot achieve such a rate due to economic impacts and costs. Costs of achievement of *MSER* will be accorded less weight for sources or *modifications* locating in *non-attainment areas* than for sources or *modifications* locating in *attainment areas* for the applicable *air contaminant*. In no event shall application of *MSER* result in *emissions* of any contaminants in excess of any federal *emission* standard or any *emission* standard contained in these regulations. If the *Secretary* determines that imposition of an *emission* standard is infeasible, a design, equipment, work practice or operational standard, or combination thereof, may be prescribed instead as constituting *MSER*.

"Motor Vehicle" shall include all vehicles propelled or drawn by power other than muscular power, except tractors used entirely for work on the farm, vehicles running only on stationary rails or tracks, motorized highway building equipment, road making appliances or snowmobiles, or implements of husbandry.

"Multiple Chamber Incinerator" means any article, machine, equipment, contrivance, structure, or part of a structure used to dispose of combustible *refuse* by burning, consisting of three or more refractory lined combustion furnaces in series, physically separated by refractory walls interconnected by gas passage ports or ducts and employing adequate design parameters necessary for maximum combustion of the material to be burned.

"Municipal Waste Combustor Acid Gases (measured as sulfur dioxide and hydrogen chloride)" means all acid gases emitted in the exhaust gases from MWC units including, but not limited to, sulfur dioxide and hydrogen chloride gases.

"Municipal Waste Combustor Metals (measured as particulate matter)" means metals and metal compounds emitted in the exhaust gases from MWC units.

“Municipal Waste Combustor Organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)” means organic compounds emitted in the exhaust gases from MWC units and includes total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.

“Municipal Solid Waste Landfill Emissions (measured as non-methane organic compounds)” means gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste.

"Natural Wood" -- for the purposes of these regulations, *natural wood* means trees, including logs, boles, trunks, branches, limbs, and stumps, lumber including timber, logs or slabs, especially when dressed for use. This definition shall also include pallets which are used for the shipment of various materials so long as such pallets are not chemically treated with any preservative, paint, or oil. This definition shall not extend to other wood products such as sawdust, plywood, particle board and press board.

"Nonattainment Area" means, for any *air contaminant*, an area which is shown by monitored data or which is calculated by air quality modeling (or other methods determined by the *Secretary* to be reliable) to exceed any applicable *ambient air quality standard* for such contaminant. *"Attainment Area"* means all other areas, except those areas for which there is not sufficient data to allow classification ("unclassified areas").

"Odor" means that property of gaseous, liquid, or solid materials that elicits a physiologic response by the human sense of smell.

"Opacity" means the degree to which *emissions* reduce the transmission of light and obscure the view of any object in the background.

"Open Burning" -- the burning of any type of combustible material in the open where the products of combustion are emitted directly into the *ambient air* space without passing through a *stack*, chimney, or other enclosure. Burning shall include ignition, permitting or causing ignition and suffering, allowing or maintaining burning.

"Oven" means a chamber which is used to bake, cure, polymerize, and/or dry a *coating*.

"Overall Emission Reduction Efficiency" means the weight per unit time of *VOC* removed or destroyed by a *control device* divided by the weight per unit time of *VOC* generated by a source, expressed as a percentage. The *overall emission reduction efficiency* can also be calculated as the product of the *capture efficiency* and the *control device* destruction or removal efficiency.

"*Owner/operator*" means the owner(s), operator(s), lessor(s), lessee(s) and/or supervisor(s) of an *air contaminant* source and/or a *person* authorized to represent such *person(s)*.

“Particulate Matter” means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than one-hundred (100) micrometers.

“Particulate Matter Emissions” means all finely divided solid or liquid material, other than uncombined water, emitted to the *ambient air* as measured

by applicable reference methods, or an equivalent or alternative method, specified in 40 C.F.R. Chapter 1. Emissions shall include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures.

“PM_{10}” means particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers as measured by a reference method based on appendix J of 40 C.F.R. Part 50 and designated in accordance with 40 C.F.R. Part 53, or by an equivalent method designated in accordance with 40 C.F.R. Part 53.

“PM_{10} *Emissions*” means finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers emitted to the *ambient air* as measured by an applicable reference method, or an equivalent or alternative method, specified in 40 C.F.R. Chapter 1. Emissions shall include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures.

“PM2.5” means particulate matter with an aerodynamic diameter less than or equal to a nominal two-and-a-half (2.5) micrometers as measured by a reference method based on Appendix L of 40 C.F.R. Part 50 and designated in accordance with 40 C.F.R. Part 53, or by an equivalent method designated in accordance with 40 C.F.R. Part 53.

“PM2.5 *direct emissions*” means finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal two-and-a-half (2.5) micrometers emitted to the *ambient air* as measured by an applicable reference method, or an equivalent or alternative method, specified in 40 C.F.R. Chapter 1. Emissions shall include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures. It does not include emissions of other gaseous precursors which may subsequently contribute to formation of secondary $PM_{2.5}$ particles through chemical reactions.

"Party" means any *person* named or admitted as a *party* under the *Act* or Subchapter VI of these regulations, or properly seeking and entitled as of right to be admitted as a *party* thereunder.

"Pathological Waste" -- human and animal remains consisting of carcasses, organs and solid organic waste.

"Permanent", in reference to *emission* reductions, means that the *emission* reduction is assured for the life of the corresponding *emission* increase. The permanence of the subject reduction shall be guaranteed through an enforceable permit limitation confirming the amount and duration of the decrease, or other enforceable mechanism (e.g., *permanently* dismantling and removing the *emissions* source, surrendering the permit, etc).

"Person" means an individual, partnership, corporation, association, unincorporated organization, trust or any other legal or commercial entity, including a joint venture or affiliated ownership. The word "*person*" also means any subdivision, agency, or instrumentality of the State of Vermont, of any other state, of the United States, or of any interstate body.

"Prevention of Significant Deterioration (PSD)" means the protection of the public health and welfare from any actual or potential adverse effect which in

the *Secretary's* judgment may reasonably be anticipated to occur from *air pollution* which would deteriorate air quality in any portion of the State where existing air quality is better than the *ambient air quality standards*.

"Process Unit" refers to a unique and/or distinct part of the total process, where raw or partially processed materials undergo a chemical or physical change which generates *air contaminants*. Within any *process unit* when any material undergoes a series of operations which are capable of emitting *particulate matter* and which employ any combination of machines, equipment, or other devices used for processing the material either continuously or in batches, the total *process weight* for the series of operations shall be the weight of materials introduced to the series as a whole. Any material which is the product of any operation in the series shall not be counted as part of the *process weight* for any other operation in the series.

"Process Weight" means the total weight of all materials introduced into any *process unit* which may cause discharge into the *ambient air* space of *particulate matter*. Solid *fuels* charged will be considered as part of the *process weight*, but liquid and gaseous *fuels* and combustion air will not. "THE PROCESS WEIGHT PER HOUR" will be derived by dividing the total *process weight* by the number of hours in a complete operation from beginning of any given process to the completion thereof, excluding any time during which the equipment is idle.

"Quantifiable", in reference to *emission* reductions, means that the amount, rate and characteristics of the *emission* reduction can be determined through an accurate and reliable method (e.g., through *emissions* tests, continuous *emissions* monitoring, material balance, etc.).

"Reasonable Progress Toward the Remedying of Existing Man-made Visibility Impairment in a Sensitive Area" means achieving and maintaining a statewide average *emission* rate of less than or equal to 1.2 pounds of sulfur dioxide released per million British thermal units of *heat input* for the category of sources including all *fuel-burning equipment* with a rated *heat input* greater than or equal to 100 million British thermal units per hour, by no later than 1995 as described in the *Implementation Plan for the Protection of Visibility in Vermont*.

"Reasonably Available Control Technology" means devices, systems, process modifications, or other apparatus or techniques designed to prevent or control *emissions* that are reasonably available, taking into account the social, environmental and economic impact of such controls, and alternative means of *emission* control.

"*Reciprocating Internal Combustion Engine*" means any spark ignited or compression ignited engine in which power, produced by heat and/or pressure in the engine cylinder(s) through the burning of a mixture of air and fuel, is subsequently converted to mechanical work by means of one or more pistons.

"Reconstructed Source" means a source wherein the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost of a comparable entirely new source. A *reconstructed source* will be treated as a new source for the purposes of these regulations.

"Refuse" -- garbage, *rubbish*, and mixed municipal wastes.

"Reid Vapor Pressure" means the absolute vapor pressure of a liquid or solid petroleum product at 100ºF (37.8ºC) in pounds per square inch (kilopascals).

"Rerefined Oil" means any *waste oil* which has been processed in such a manner as to make it substantially equivalent, in the judgment of the *Air Pollution Control Officer*, to virgin oil with regard to the *emissions* caused when it is used as a *fuel*.

"Respondent" means any adverse *party* in a case or enforcement action under these regulations.

"Ringelmann Chart" -- the chart published and described in U.S. Bureau of Mines Information Circular 8333 (May 1967) and on which are illustrated graduated shades of grey for use in estimating the light obscuring capacity of *smoke*.

"Rubbish" -- solids or liquids not considered to be highly flammable or explosive, such as, but not limited to, paper, rags, ashes, leaves, tree branches, yard trimmings, furniture, tin cans, glass, crockery, demolition wastes, junk automobiles, tires, automotive parts and other similar materials.

"*Schedule of compliance*" means a schedule of remedial measures, including an enforceable sequence of actions or operations, leading to timely compliance with applicable requirements related to the control of *air contaminant* emissions or the prevention or control of *air pollution*.

"Secretary" means the Secretary of the Agency of Natural Resources or such *person* as the *Secretary* may designate.

"Sensitive Area" means for the purpose of these regulations, any portion of the area comprising Lye Brook Wilderness Area and all other terrain in Vermont at or above the elevation of 2500 feet above mean sea level.

"Significant" means, in reference to a *modification's* increase in *actual emissions* or a source's *allowable emissions* of any of the following *air contaminants*, a rate of *emissions* that would equal or exceed any of the following rates:

Air Contaminant	***Tons* Per Year**
Carbon monoxide	50
Nitrogen oxides	40
Sulfur dioxide	40
Particulate matter emissions	25
PM_{10} emissions	15
$PM_{2.5}$[1]	
$PM_{2.5}$ direct emissions	10
Sulfur dioxide	40
Nitrogen oxides	40
Volatile organic compounds(VOC)	40
Lead	0.6
Fluorides	3
Sulfuric acid mist	7
Hydrogen sulfide (H_2S)	10
Total reduced sulfur (including H_2S)	10
Reduced sulfur compounds (including H_2S)	10
Ozone[2]	
Volatile organic compounds (VOC)	40
Nitrogen oxides	40
Municipal waste combustor organics (measured as total tetra-through octa- chlorinated dibenzo-p-dioxins and dibenzofurans)	3.5×10^{-6}
Municipal waste combustor metals (measured as particulate matter)	15
Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride)	40
Municipal solid waste landfill emissions (measured as non-methane organic compounds)	50
Greenhouse gases[3]	See footnote

[1] For $PM_{2.5}$, significant means either 10 tons per year or more of direct $PM_{2.5}$ emissions, 40 tons per year or more of sulfur dioxide emissions or 40 tons per year or more of nitrogen oxides emissions.
[2] For Ozone, significant means either 40 tons per year or more of nitrogen oxide emissions, or 40 tons per year or more of VOC emissions.
[3]For *greenhouse gases*, "significant" means a rate of emissions for total *greenhouse gases*, on a carbon dioxide equivalent (CO_2e) basis, that (1) is subject to regulation at that source or *modification*, and (2) would equal or exceed the significance level established by EPA.

"Smoke" means the visible aerosol, resulting from incomplete combustion, which contains fly ash and/or other *combustion contaminants*, excluding condensed water vapor.

"Stack" means any chimney, flue, conduit, or duct arranged to conduct *emissions* to the *ambient air*.

"Standard Conditions" means a temperature of 20ºC (68ºF) and a pressure of 760 mm (29.92 inches) of Hg.

"Stationary Reciprocating Internal Combustion Engine" means a *reciprocating internal combustion engine* that remains at a *stationary source* for more than twelve consecutive months or a shorter period of time for a *reciprocating internal combustion engine* located at a seasonal source. A *reciprocating internal combustion engine* located at a seasonal source is an engine that remains or will remain at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a *stationary source* that remains or will remain at a single location on a permanent basis (i.e., at least two years) and that operates at the location for three months or more each year.

"Stationary Source" means any structure(s), building(s), facility(ies), equipment, installation(s), or operation(s) (or combination thereof) which emits or may emit any *air contaminant*, which is located on one or more contiguous or adjacent properties and which is owned or operated by the same *person* (or *persons* under common control). The phrase "emits or may emit any *air contaminant*" as used in this definition applies to both *fugitive emissions* and *stack* emissions.

"Stationary Source Hazardous Air Impact Standard" means a concentration in the *ambient air* of a *hazardous air contaminant* attributable to the air quality impacts of a *stationary source,* in conjunction with the air quality impacts from other *stationary sources* as determined in accordance with the *Agency's* air quality impact evaluation guidelines (revised November 20, 1992). *Stationary source hazardous impact standards* are specified in Appendix C or may be determined under Section 5-261(6) of these regulations.

“Subject To Regulation” means subject to regulation as defined by EPA at 40 C.F.R. §51.166(48)(b) and any references therein to “major stationary source” shall be interpreted as defined in 40 C.F.R. § 51.166(b)(1)(i) rather than as defined in this Section 5-101 of these regulations.

"Submerged Fill" means the method of filling a *gasoline tank truck* or storage tank in which *gasoline* enters within six inches of the bottom of the tank. Bottom filling of *gasoline tank trucks* and storage tanks is included in this definition.

"Surplus", in reference to *emission* reductions, means *emission* reductions that are voluntarily created by a source and are not required by any state or federal laws or regulations or related permits, orders or agreements and are not relied upon for *Agency* planning purposes.

"Ton" means "short ton" or 2000 pounds.

"Total Suspended Particulate (TSP)" means *particulate matter* as measured by the reference method specified in Title 40 *C.F.R.* Part 50, Appendix B.

"True Vapor Pressure" means the absolute pressure in pounds per square inch (kilopascals) of a pure vapor in equilibrium with its pure liquid or solid form at a given temperature.

"Used Oil" means any petroleum product that has been refined from crude oil (in whole or in part), or any synthetic oil, that has been used and unrefined, or is unfit for its intended use as a result of contamination by physical or chemical impurities. *Used oil* is a free-flowing liquid at standard temperature and pressure and has a flash point of greater than 100 degrees (F). *Used oil* includes oils used as lubricants, heat transfer fluids, hydraulic fluids, and for other similar uses, but does not include materials derived from crude or synthetic oils that are fuels (e.g. gasoline, jet fuel and diesel fuel), cleaning agents or solvents (e.g. naptha or mineral spirits). These materials are subject to regulation under the Hazardous Waste Management Regulations Subchapters 1 through 7, as applicable.

"Vapor Balance System" means a combination of pipes or hoses which create 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, or an equivalent system that has been approved by the *Air Pollution Control Officer* and *EPA*.

"Vapor Collection System" means all piping, seals, hoses, connections, pressure vacuum vents and other equipment between the g*asoline tank truck* and the vapor processing unit and/or the storage tanks and vapor holder.

"Vapor Control System" means a system that limits or prevents release to the atmosphere of organic compounds in the vapors displaced from a tank during the transfer of *gasoline*.

"Vapor Recovery System" means a vapor gathering system capable of collecting *volatile organic compound* vapors and gases emitted during the operation of any transfer, storage or process equipment.

"Vapor-Tight" means equipment that allows no loss of vapors. Compliance with *vapor-tight* requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the lower explosive limit (LEL) when measured with a combustible gas detector, calibrated with propane, at a distance of 1 inch (2.54 cm) from the source.

"Vapor-Tight Gasoline Tank Truck" means a *gasoline tank truck* with a product delivery tank that sustains a pressure change of not more than 3.0 inches (75 mm) of water within 5 minutes after it is pressurized to 18 inches (450 mm) of water; or when evacuated to 5.9 inches (150 mm) of water, the same tank will sustain a pressure change of not more than 3.0 inches (75 mm) of water within 5 minutes. This capacity shall be demonstrated by annual testing using the procedures specified in Method 27 of 40 *C.F.R.* Part 60, Appendix A.

"Visibility Impairment" means any humanly perceptible change in visual range, contrast, or coloration from that which would have existed under natural visibility conditions.

"Volatile Organic Compound (VOC)" means any organic compound (i.e., chemical compound of carbon) that participates in atmospheric photochemical reactions. This includes any organic compound other than those determined by the Administrator of the U.S. Environmental Protection Agency to have no or negligible photochemical reactivity.

"Wood Fuel" for the purposes of these regulations means *natural wood*, as well as, sawdust or other wood waste generated by wood processing operations.

SUBCHAPTER II. PROHIBITIONS

5-201 OPEN BURNING PROHIBITED

(1) No *person* shall engage in any *open burning* except in conformity with the provisions of Section 5-201, 5-202, and 5-203.

(2) No *person* shall cause, suffer, allow or permit the *open burning* of *garbage*, tires, rubber, plastic, *waste oil*, asphalt materials, materials containing asbestos, or pressure treated wood, except as may be allowed under subsections (3) and (7) of Section 5-202.

5-202 PERMISSIBLE OPEN BURNING

When not prohibited by local ordinances or officials having jurisdiction such as local, state or federal fire wardens or other fire prevention officials, the following types of burning are permissible, provided no public or private nuisance is created.

(1) *Natural wood* fires in conjunction with holiday and festive celebrations.

(2) Campfires, outdoor grills, and fireplaces for recreation or preparing of food.

(3) Burning of solid or liquid *fuels* or structures for the purpose of bona fide instruction and training of municipal, volunteer, and industrial firefighters in the methods of fighting fires when conducted under the direct control and supervision of qualified instructors. Said firefighters shall be residents of the State of Vermont or affiliated with the mutual aid systems within the State of Vermont. Notification by the fire training officer or the fire chief of the training exercise shall be made to the *Air Pollution Control Officer* on prescribed forms at least 14 days prior to the exercise.

(4) Burning in *forest land areas* of brush, tree cuttings and slash when the cuttings accrue from logging or site clearing operations.

(5) Burning for the purpose of weed abatement; disease, forest fire and pest prevention or control; and for the purpose of agricultural, forestry or wildlife habitat management.

(6) On-premise burning of leaves, brush, deadwood, or tree cuttings accrued from normal property maintenance by the owner, his or her agent, or lessee thereof.

(7) *Open burning*, as follows, if prior approval in writing is obtained from the *Air Pollution Control Officer*. Approvals granted under this subsection shall be subject to such reasonable conditions as are necessary to avoid a nuisance or to protect the health, safety or comfort of the public. The requirement for approval in writing may be waived by the *Air Pollution Control Officer* and oral approval may be granted instead when, in his or her judgment, the impacts of the burning will be insignificant.

(a) Burning in remote areas, of highly explosive or other dangerous, or unusual materials for which there is no other feasible method of disposal.

(b) Burning in remote areas of *natural wood* resulting from the construction or demolition of buildings and other structures originating from within the State.

(c) Fires to thwart a hazard which cannot properly be managed by any other means or that are necessary for the protection of public health.

(d) Burning of other combustible materials for which there is no other feasible method of disposal.

(8) Burning of *natural wood* in an area designated by the selectmen or city council, with the permission of the selectmen or city council of that municipality and the fire warden in that jurisdiction, and in conformance with the procedures outlined in Section 5-203 of these regulations.

5-203 PROCEDURES FOR LOCAL AUTHORITIES TO BURN NATURAL WOOD

The legislative branch of a municipality (selectmen or city council) may authorize the burning of *natural wood* and chemically untreated wood at a place within the municipality. The burning of such wood shall be conducted under the direction of and at such times as the fire warden for that municipality determines. If the selectmen or city council intends to exercise this option to burn *natural wood*, the selectmen or city council shall notify the *Secretary* of the location of the site to be utilized for the public disposal of *natural wood* by *open burning*. Prior to burning of any material at this site, the *Secretary* shall certify in writing that this site is the one place within the municipality that will be used for the *open burning* of *natural wood*.

5-204 WOOD STOVES AND CENTRAL HEATERS

(a) Applicability.

(1) This section shall apply to any person who owns, operates, installs, allows the installation or operation of, purchases, *distributes* or *sells*, or manufactures any *affected wood heater* or *central heater* for use in Vermont, except as provided below.

(2) This section shall not apply to any person who owns, operates, installs, allows the installation or operation of, purchases, *distributes* or *sells*, or manufactures:

(i) Any *affected wood heater*, *forced-air furnace*, or *indoor hydronic heater* manufactured before May 15, 2015, except as provided in subsections (c)(1),(d)(1)-(2), and (e) of this section.

(ii) Any appliance that does not have the capacity to burn wood or wood pellets (such as coal-only heaters or corn-only *pellet stoves*) provided that all advertising, operating instructions, warranties and design exclude wood burning.

(iii) Any *affected wood heater* or *central heater* listed as exempt in 40 C.F.R. §60.530(b)(1), (2), (4)-(6) and 40 C.F.R. §60.5472(b)(1)-(2), *masonry heaters*, and *traditional Native American bake ovens*.

(iv) Any *affected wood heater* or *central heater* that is or has been owned by such person for his or her own personal use and is *distributed* or sold to another for his or her own personal use, provided that the installation and operation requirements in subsection (c)(2)-(3) of this section are met. For the purposes of this section, "personal use" means the use of any *affected wood heater* or *central heater* by an individual solely for residential space or domestic water heating and not to service a commercial or institutional establishment.

(v) Any *affected wood heater* or *central heater* that is intended or actually installed for a non-residential application and has a heat output of more than 2.5 million British Thermal Units (BTUs) per hour.

(b) Definitions. For the purposes of this section, the following definitions apply, in addition to those of Section 5-101 of this chapter.

(1) "*Adjustable burn rate wood heater*" means a wood heater that is equipped with or installed with a damper or other mechanism to allow the operator to vary burn rate conditions, regardless of whether it is internal or external to the appliance. This definition does not distinguish between heaters that are free standing, built-in or fireplace inserts.

(2) "*Affected wood heater*" means an enclosed, wood burning-appliance capable of and intended for space heating, space heating and water heating, or providing heat for a process. These devices include, but are not limited to, *adjustable burn rate wood heaters*, *single burn rate wood heaters* and *pellet stoves*.

(3) "*Catalytic combustor*" means a device coated with a noble metal used in a wood heater to lower the temperature required for combustion.

(4) "*Central heater*" means a fuel-burning device that has the capacity to burn wood or wood *pellet fuel* that warms spaces other than the space where the device is located, by the distribution of air heated by the furnace through ducts or liquid heated in the device and *distributed* typically through pipes. These devices include, but are not limited to, *forced-air furnaces* and *hydronic heaters*.

(5) "*Chip wood fuel*" means wood chipped into small pieces that are uniform in size, shape, moisture, density and energy content.

(6) "*Distribute* or *sell*" means to *distribute*, *sell*, advertise for sale, offer for sale, hold for sale, ship, deliver for shipment, release for shipment, or receive and (having so received) deliver or offer

to deliver. This term also includes conditional sales and long-term leases.

(7) "*Forced-air furnace*" means a fuel burning device designed to burn wood or wood *pellet fuel* that warms spaces other than the space where the furnace is located, by the distribution of air heated by the furnace through ducts.

(8) "*Hydronic heater*" means a fuel burning device designed to burn wood or wood *pellet fuel* for the purpose of heating building space and/or water through the distribution, typically through pipes, of a fluid heated in the device, typically water or a water and anti-freeze mixture.

(9) "*Indoor hydronic heater*" is any *hydronic heater* that does not meet the definition of *Outdoor hydronic heater*.

(10) "*Manufacturer*" means any person who constructs, markets as their own, or imports into the United States an *affected wood heater* or *central heater*.

(11) "*Masonry heaters*" means a factory-built or site-built wood-burning device in which the heat from intermittent fires burned rapidly in the firebox is stored in the refractory mass for slow release to building spaces.

(12) "*Outdoor hydronic heater*" means a *hydronic heater* that the *manufacturer* specifies should or may be installed outdoors or in structures not normally occupied by humans, such as attached or detached garages or sheds. As used in subsection (c) of this section only, this term also means any *hydronic heater* that is actually installed outdoors or in structures not normally occupied by humans, such as attached or detached garages or sheds, regardless of whether such use has been specified by the *manufacturer*.

(13) "*Pellet fuel*" means refined and densified solid wood shaped into small pellets or briquettes that are uniform in size, shape, moisture, density and energy content.

(14) "*Pellet stove*" means an enclosed pellet or chip fuel-burning device capable of and intended for residential space heating or space heating and domestic water heating. *Pellet stoves* include a fuel storage hopper or bin and a fuel feed system.

(15) "*Single burn rate wood heater*" means a wood heater that is not equipped with or installed with a burn control device to allow the operator to vary burn rate conditions. Burn rate control devices include stack dampers that control the outflow of flue gases from the heater to the chimney, whether built into the appliance, sold with it, or recommended for use with the heater by the *manufacturer*, retailer or installer; and air control slides, gates or any other type of mechanisms that control combustion air flow into the heater.

(16) "*Traditional Native American bake oven*" means a wood or other solid fuel burning appliance that is designed primarily for use by native

Americans for food preparation, cooking, warming, or for instructional, recreational, cultural or ceremonial purposes.

(17) "*Unseasoned wood*" mean wood with an average moisture content of 20 percent of more.

(18) "*Vermont Phase I outdoor hydronic heater*" (a.k.a. Phase I Outdoor Wood-fired Boiler or Phase I OWB) means an *outdoor hydronic heater* that has been previously certified by the Air Pollution Control Officer as meeting the particulate matter emissions limit of 0.44 pounds per million BTUs of heat input.

(19) "*Vermont Phase II outdoor hydronic heater*" (a.k.a. Phase II Outdoor Wood-fired Boiler or Phase II OWB) means an *outdoor hydronic heater* that has been previously certified by the Air Pollution Control Officer as meeting the particulate matter emission limit of 0.32 pounds per million BTUs of heat output.

(20) "*Vermont uncertified outdoor hydronic heater*" means an *outdoor hydronic heater* that has not been certified by the Air Pollution Control Officer as a Vermont Phase I or Phase II *outdoor hydronic heater* or by the EPA as meeting the standards and requirements of 40 C.F.R. §60.5474.

(c) Requirements for Purchasers, Installers, and Owners/Operators

(1) Requirements for Purchasers

(i) On or after December 15, 2016 no person shall purchase an *affected wood heater* unless it has been certified by the EPA as meeting the applicable standards and requirements of 40 C.F.R. §60.532.

(ii) On or after December 15, 2016 no person shall purchase a *central heater* unless it has been certified by the EPA as meeting the applicable standards and requirements under 40 C.F.R. §60.5474.

(2) Installation Requirements

(i) On or after December 15, 2016 no person shall install or allow the installation of an *affected wood heater* or *central heater* unless it complies with all applicable laws and regulations, including but not limited to local ordinances, and is in conformance with the *manufacturer*'s owner's manual, operating and maintenance instructions.

(ii) No person shall install or allow the installation of any *Vermont uncertified outdoor hydronic heater* that also does not meet the standards and requirements of 40 C.F.R. §60.5474 unless the *outdoor hydronic heater*:

(A) Is located more than 200 feet from any residence, school, or health care facility that is neither served by the *outdoor hydronic heater* or owned by the owner of lessee of the *outdoor hydronic heater*, and

(B) Has a permanent stack extending higher than the peak of the roof of the structure(s) being served by the *outdoor hydronic heater*, if any residence, which is not owned by the owner or lessee of such *outdoor hydronic heater*, is located more than 200 feet but less than 500 feet from the *outdoor hydronic heater*.

(iii) No person shall install or allow the installation of any *Vermont Phase I outdoor hydronic heater* unless it is located more than 200 feet from any residence, school, or health care facility that is neither served by the *outdoor hydronic heater* nor owned by the owner or lessee of the *outdoor hydronic heater*.

(iv) No person shall install or allow the installation of any *Vermont Phase II outdoor hydronic heater* or any *outdoor hydronic heater* that meets the requirements of 40 C.F.R. §60.5474 unless it is located more than 100 feet from any residence, school or health care facility that is neither served by the *outdoor hydronic heater* nor owned by the owner or lessee of the *outdoor hydronic heater*.

(3) Operation Requirements

(i) On or after December 15, 2016 no person shall cause, suffer, allow, or permit the operation of any *affected wood heater* or *central heater* unless it was installed in accordance with the applicable requirements of (c)(2) of this section.

(ii) Allowable fuels.

(A) Owner/Operators of *affected wood heaters* and *central heaters* that are certified by the EPA to burn *chip wood fuels* must only burn *chip wood fuels* that have been specified in the owner’s manual and meet the requirements of 40 C.F.R. §60.532(d)(1)-(6).

(B) Owner/Operators of *affected wood heaters* and *central heaters* that are certified by the EPA to burn *pellet fuels* must only burn pellets that have been specified in the owner’s manual and graded under a licensing agreement with a third-party organization approved by the EPA and that meet the requirements of 40 C.F.R. §60.532(e)(1)-(8).

(C) No person shall cause suffer, allow, or permit the burning of any of the following material in an *affected wood heater* or *central heater*:

(I) Residential or commercial garbage;
(II) Lawn clippings or yard waste;
(III) Materials containing rubber, including tires;
(IV) Materials containing plastic;
(V) Waste petroleum products, paints, or paint thinners, or asphalt products;
(VI) Materials containing asbestos;
(VII) Construction or demolition debris;
(VIII) Paper products, cardboard, plywood, or particleboard. The prohibition against burning these materials does not prohibit the use of fire starters made from paper, cardboard, sawdust, wax, or similar substances for the purpose of starting a fire in an *affected wood heater* or *central heater*;
(IX) Railroad ties, pressure treated wood, or pallets;
(X) Manure or animal remains;
(XI) Salt water driftwood or other previously salt water saturated materials;
(XII) *Unseasoned wood*;
(XIII) Any materials that are not included in the warranty and owner's manual for the *affected wood heater* or *central heater*; and
(XIV) Any materials that were not included in the certification tests for the *affected wood heater* or *central heater*.

(iii) No person shall cause, suffer, allow, or permit the operation of an *affected wood heater* or *central heater* unless it complies with all applicable laws and regulations, including but not limited to local ordinances, and is in conformance with the *manufacturer*'s owner's manual, operating and maintenance instructions.

(d) Requirements for Sellers

(1) *Affected wood heaters*.

(i) On or after December 15, 2016 no person shall *distribute* or *sell* an *affected wood heater* unless it has been certified by the EPA as meeting the applicable standards and requirements of 40 C.F.R. §60.532.

(ii) On or after December 15, 2016 no person shall *distribute* or *sell* an *affected wood heater* that does not have affixed to it a permanent label in accordance with 40 C.F.R. §60.536(a)-(e).

(iii) On or after December 15, 2016 if a temporary label is affixed to an *affected wood heater*, no person may *distribute* or *sell* the subject *affected wood heater* unless the temporary label affixed is in accordance with 40 C.F.R. §60.536(f).

(2) *Central heaters*.

(i) On or after December 15, 2016 no person shall *distribute* or *sell* a *central heater* unless it has been certified by the EPA as meeting the applicable standards and requirements of 40 C.F.R. §60.5474.

(ii) On or after December 15, 2016 no person shall *distribute* or *sell* a *central heater* that does not have affixed to it a permanent label in accordance with 40 C.F.R. §60.5478(a)-(d).

(iii) On or after December 15, 2016 if a temporary label is affixed to a *central heater*, no person may *distribute* or *sell* the subject *central heater* unless the temporary label affixed is in accordance with 40 C.F.R. §60.5478(e).

(3) Notice to Buyers.

(i) No *person* shall *distribute or sell* any *outdoor hydronic heater* unless prior to any retail sales or lease agreement, the seller or dealer provides the prospective buyer or lessee with written notice stating that:

(A) Only fuels not prohibited, as specified in Section 5-204(c)(3)(ii)(C) of this section, may be burned in an *outdoor hydronic heater*;

(B) Installation of the *outdoor hydronic heater* is subject to the applicable distance requirements provided in subsection 5-204(c)(2)(iv) of this section. [Each notice shall expressly disclose each such requirement];

(C) Use of an *outdoor hydronic heater* that meets the applicable distance requirements provided in subsection 5-204(c)(2)(iv) of this section is not appropriate in some areas due to terrain that could render the operation of an *outdoor hydronic heater* to be a nuisance or a public health hazard;

(D) All *outdoor hydronic heaters* must be operated in conformance with the *manufacturer*'s operating and maintenance instructions.

(ii) The written notice shall be signed and dated by the prospective buyer or lessee to verify timely receipt of the notice prior to the sale or lease and shall contain the name, address and telephone number of both the seller or dealer and the prospective buyer or lessee, the location where the *outdoor hydronic heater* will be installed, and the make and model of the *outdoor hydronic heater*. Prior to making delivery of an *outdoor hydronic heater* into the possession of any buyer or lessee, the seller or dealer shall mail or otherwise provide a copy of the signed notice to the:

Air Quality & Climate Division
Davis 2
One National Life Drive
Montpelier, Vermont 05620-3802

(e) Requirements for *Manufacturer*s

(1) On or after December 15, 2016, each *affected wood heater* that has been certified by the EPA as meeting the applicable standards and requirements of 40 C.F.R. §60.532 must have a permanent label affixed to it that meets the requirements of 40 C.F.R. §60.536(a)-(e).

(2) On or after December 15, 2016, each *central heater* that has been certified by the EPA as meeting the applicable standards and requirements of 40 C.F.R. §60.5474 must have a permanent label affixed to it that meets the requirements of 40 C.F.R. §60.5478(a)-(d).

(f) General requirements.

(1) No person shall cause, suffer, or allow for the alteration, defacement, or removal of any permanent label required to be affixed to an *affected wood heater* pursuant to 40 C.F.R. §60.536(a)-(e) or a *central heater* pursuant to 40 C.F.R. §60.5478(a)-(d).

(2) No person shall cause, suffer, or allow for the operation, sale, or offering for sale of a *central heater* or *affected wood heater* that was originally equipped with a *catalytic combustor* if the catalytic element is deactivated or removed.

(g) Enforcement. Each distribution or sale, purchase, installation, or operation of each *affected wood heater* or *central heater* in violation of any of the requirements of this section shall constitute a separate violation.

5-205 [REPEALED] Repealed eff. October 1, 2009.

5-211 PROHIBITION OF VISIBLE AIR CONTAMINANTS

(1) Installations constructed prior to April 30, 1970

No *person* shall cause, suffer, allow or permit the *emission* of any visible *air contaminant* from installations constructed prior to April 30, 1970, for more than a period or periods aggregating six (6) minutes in any hour, which has a shade, or density, greater than 40% *opacity* (No. 2 on the *Ringelmann Chart*).

At no time shall the visible *air contaminants* have a shade, density, or appearance greater than 60% *opacity* (No. 3 of the *Ringelmann Chart*).

(2) Installations constructed subsequent to April 30, 1970

No *person* shall cause, suffer, allow or permit the *emission* of any visible *air contaminant* from installations constructed subsequent to April 30, 1970, for more than a period or periods aggregating six (6) minutes in any hour, which has a shade, or density, greater than 20% *opacity* (No. 1 of the *Ringelmann Chart*).

At no time shall the visible *air contaminants* have a shade, density, or appearance greater than 60% *opacity* (No. 3 of the *Ringelmann Chart*).

(3) Exceptions - *Wood Fuel Burning Equipment*

(a) During normal startup operations, *emissions* of visible *air contaminants* in excess of the limits specified in subsections (1) and (2) above may be allowed for a period not to exceed one (1) hour.

(b) During normal soot blowing operations, *emissions* of visible *air contaminants* in excess of the limits specified in subsections (1) and (2) above may be allowed for a period not to exceed 30 minutes during any 24 hour period.

(c) At no time shall the visible *air contaminants* allowed under this subsection have a shade, density, or appearance greater than 80% *opacity* (No. 4 of the *Ringelmann Chart*).

(d) Any wood fuel burning equipment that has a rated output of 40 H.P. or less shall not be subject to this regulation (Section 5-211).

5-221 PROHIBITION OF POTENTIALLY POLLUTING MATERIALS IN FUEL

(1) Sulfur Limitations in *Fuel*

(a) No *person* shall cause or permit the use, purchase, or sale for use in stationary combustion installations within the State of Vermont for heat or power generation of:

(i) *Fuels* containing more than 2.0% sulfur by weight, except as otherwise provided below;

(ii) No. 2 and lighter distillate oils and animal and vegetable oil fuel oils with a sulfur content greater than 0.05% by weight, beginning on July 1, 2014 and ending on June 30, 2018;

(iii) No. 2 and lighter distillate oils and animal and vegetable oil fuel oils with a sulfur content greater than 0.0015% by weight, beginning on July 1, 2018;

(iv) No. 4 residual oil with a sulfur content greater than 0.25% by weight, beginning on July 1, 2018; and

(v) No. 5 and No. 6 residual oils and heavier residual oils and *used oils* with a sulfur content greater than 0.5% by weight, beginning on July 1, 2018

(b) Notwithstanding the provisions of subsection (1)(a) of this section, *fuel* stored in Vermont that met the applicable maximum sulfur content limit at the time the fuel was stored in Vermont may continue to be stored, used, delivered or exchanged in trade after the effective date of the applicable limit in subsection (1)(a) of this section, but may not be offered for sale or sold.

(c) Subsection (1)(a) of this section shall not apply where compounds of sulfur are removed from the *flue gas* to the extent that the emissions of compounds of sulfur to the *ambient air* space are no greater than that which would be emitted under subsection (1)(a) hereof. *Emissions* testing and/or continuous emissions monitoring, coupled with the filing of quarterly emission reports with the Air Pollution Control Officer, shall be required to demonstrate that the sulfur compounds emitted have been adequately reduced.

(d) The Governor, by executive order, may temporarily suspend the implementation and enforcement of subsection (1)(a) of this section if the Governor determines, after consulting with the *Secretary* and commissioner of public service, that meeting the requirements is not feasible due to an inadequate supply of the required fuel.

(e) Contravention of National Primary or Secondary *Ambient Air Quality Standards*. If there is a contravention of national primary or secondary *ambient air quality standards* promulgated pursuant to the Federal Clean Air Act, as amended (42 U.S.C. 7401, et seq.), the *Secretary* may impose more stringent sulfur limitations in fuel than contained in subsection (1)(a) of this section on a regional, or individual basis and for such time periods as is necessary to assure continued compliance with the national *ambient air quality standards*.

(f) Recordkeeping and Reporting

(i) Any *person* who imports or receives for wholesale distribution residual oil in the State of Vermont shall submit to the *Air Pollution Control Officer* quarterly reports for each calendar quarter within 30 days after the close of each quarter itemizing the quantity, sulfur content, ash content and heat content for each shipment of such fuel. It is the responsibility of the *person* importing or receiving such residual oil to maintain a record of the certified fuel analyses upon which the quarterly reports are based and provide the user a copy of the certification.

(ii) Any *person* who uses residual oil shall maintain records of the certified fuel analyses provided by the supplier.

(iii) Copies of all records and reports required by this regulation shall be available during normal business hours and shall be provided to the *Air Pollution Control Officer* upon request.

(2) *Used Oil*

(a) Effective July 1, 1997, the burning of *used oil* in small *fuel burning equipment* described as “pot burners” or “vaporizing” burners shall be prohibited, as shall the retail sale of these burners.

(b) No *person* shall cause or permit the use, purchase, sale or exchange in trade for use as a *fuel* in *fuel burning equipment* in Vermont of any *used oil* unless:

(i) The *used oil* has constituents and properties within the allowable limits set forth in Table A of this section prior to blending except as provided in subsection (e) below. The *Air Pollution Control Officer* may prohibit the combustion of *used oils* containing constituents or properties not listed in Table A of this section if he/she determines that combustion of such *used oil* may present an unreasonable risk to public health or welfare;

TABLE A: USED OIL CONSTITUENTS AND PROPERTIES
(Prior to Blending)

Constituent/Property	**Allowable[1]**
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash Point	Must be 100 degrees F or more
Total Halogens	1000 ppm maximum
Polychlorinated Biphenyls (PCBs)	< 2 ppm maximum
Net Heat of Combustion	8000 BTU/lb minimum
[1]Note: units of parts per million (ppm) are by weight on a water free basis.	

(ii) The seller or user performs all sampling and analysis required under this section;

(iii) The *combustion efficiency* of the equipment is demonstrated to the *Air Pollution Control Officer* to be at least 99 percent while burning *used oil*;

(iv) The *emissions* of visible *air contaminants* from the equipment comply with Section 5-211(2) of these regulations;

(v) All *fuel burning equipment* must vent to the outside atmosphere in a manner as not to significantly impede the upward dispersion of the exhaust as determined by the Air Pollution Control Officer; and

(vi) The seller and user manages *used oil* in accordance with the applicable requirements of Subchapter 8 of the Vermont Hazardous Waste Management Regulations.

(c) Sampling, analysis, monitoring and records

The *Air Pollution Control Officer* may require the owner and/or operator of *fuel burning equipment* burning *used oil* to:

(i) Conduct sampling and analyses representative of the *used oil(s)* to be burned that includes all constituents and properties listed in Table A of this section. Sampling and analyses of *used oil* shall be performed in accordance with methods acceptable to the *Air Pollution Control Officer*;

(ii) Perform *stack* monitoring and testing while burning *used oil*;

(iii) Maintain a separate storage tank for any *used oils* to be burned; and

(iv) Maintain records of the quantities of *used oil* burned including *used oil* generated on-site and *used oil* received from off-site, dates of receipt of such *used oil*, and the names and addresses of all *used oil* suppliers for three calendar years.

Such records shall always be required and maintained for three calendar years if any *used oil* is burned in any *fuel burning equipment* at the facility with a maximum operating *heat input* rate greater than 500,000 BTU's per hour.

(d) Permitting requirements

(i) No *person* may construct or modify any *fuel burning equipment* with a maximum operating *heat input* rate greater than 500,000 BTU's per hour in which *used oil* is to be burned if *used oil* is to be burned in amounts of 5,000 gallons per year facility wide or more until all requirements of this section have been met and a permit has been issued in accordance with Section 5-501 of these regulations.

(ii) Any *person* who constructs or modifies such *fuel burning equipment* with a maximum operating *heat input* rate of greater than 500,000 BTU’s per hour in which *used oil* is to be burned and at a facility in which *used oil* is to be burned in amounts less than 5,000 gallons per year facility wide shall provide written notice to the *Air Pollution Control Officer* of such activity prior to the date of initial burning of *used oils*. Such notice shall include: the type of *fuel burning equipment* that will be used to combust the *used oil,* the maximum rated heat input capacity of such *fuel burning equipment*, the anticipated quantity of *used oil* to be burned in each device

at the facility each year, the type(s) and source(s) of *used oil(s)* to be burned, the results of analyses representative of the *used oil(s)* to be burned that includes all constituents and properties listed in Table A of this section, and a statement that the *person* will comply with the requirements of this section.

(e) Exceptions to *used oil* constituent and property limitations

An owner or operator of *fuel burning equipment* may be exempted by the *Air Pollution Control Officer* from the *used oil* constituent and property limitations in Table A of this section if such owner or operator:

(i) Demonstrates compliance with Section 5-261 (Control of Hazardous Air Contaminants) of these regulations;

(ii) Submits results of analyses representative of the *used oil(s)* to be burned that includes all constituents and properties listed in Table A of this section; and

(iii) Demonstrates that the *emissions* resulting from the burning of *used oil* will not cause or contribute to a violation of any *ambient air quality standard* or of any *prevention of significant deterioration* increment and will not impact on any *Class I area*.

(f) Exemptions from Section 5-261 (Control of Hazardous Air Contaminants)

Notwithstanding Section 5-261(1) of these regulations, any *person* burning *used oil* in compliance with Table A and this section in *fuel burning equipment* equal to or less than 500,000 BTU's per hour or in *fuel burning equipment* greater than 500,000 BTU's per hour but in amounts less than 5,000 gallons per year facility wide shall not be subject to Section 5-261 (Control of Hazardous Air Contaminants) of these regulations.

5-231 PROHIBITION OF PARTICULATE MATTER

(1) Industrial Process *Emissions*

(a) No *person* shall discharge, cause, suffer, allow, or permit in any one hour from any *stack* whatsoever *particulate matter* in excess of the amount shown in Table 1. For purposes of this regulation the total *process weight* entering a *process unit* shall be used to determine the maximum *allowable emissions* of *particulate matter* which may pass through the *stack* associated with the *process unit*. When two or more *process units* exhaust through a common *stack*, the combined *process weight* of all of the *process units*, served by the common *stack*, shall be used to determine the allowable *particulate matter emission* rate.

(b) In cases where *process weight* is not applicable as determined by the *Air Pollution Control Officer*, the concentration of *particulate*

matter in the effluent gas stream shall not exceed 0.14 grams per cubic meter (0.06 grains per cubic foot) of undiluted exhaust gas at *standard conditions* on a dry basis. In the case of wood processing operations, *process weight* is not applicable, and instead, the concentration standard specified in this subsection shall apply.

(2) *Incinerator Emissions*

(a) A *person* shall not discharge, cause, suffer, allow, or permit the *emission* of *particulate matter* from any *incinerator* with a designed charging rate of less than 45.36 metric tons (50 *tons)* per day and which is not a *crematory*, to exceed 0.05 kilograms (0.10 pounds) per 43.36 kilograms (100 pounds) of *refuse* burnt. All *incinerators* built and installed after July 1, 1971, shall be *multiple chamber incinerators* or equipment found by the *Air Pollution Control Officer*, in advance of such use, to be equally effective for the purpose of *air pollution* control as an approved *multiple chamber incinerator*. The responsibility for showing that the equipment other than a *multiple chamber incinerator* is in compliance with the *emission* limits of this subsection shall be on the *person* seeking to come within the provisions of this subsection.

(b) Any *incinerators* with a designed charging rate of 45.36 metric tons (50 *tons*) per day or more shall be operated in such a manner that *emissions* of *particulate matter* shall not exceed 0.183 grams per dry standard cubic meter (0.08 grains per dry standard cubic foot) corrected to 12 percent carbon dioxide.

(c) A *person* shall not discharge, cause, suffer, permit, or allow to be emitted from any *crematory* any gases that contain *particulate matter* in excess of 0.14 grams per dry standard cubic meter (0.06 grains per dry standard cubic foot), corrected to 7 percent oxygen. The owner or operator of a *crematory* installed after June 1, 1995 shall ensure that the last combustion chamber or zone of the *crematory* is preheated to a temperature of at least 1,600 degrees Fahrenheit prior to introduction of the charge. All sampling runs conducted as a part of e*mission* tests intended to demonstrate compliance with the *emission* limit specified in this subsection shall begin when waste material is first introduced into the *crematory*.

(d) Any *incinerator* which is designed or operated primarily for the purpose of producing heat or power may be designated as *fuel burning equipment* by the *Air Pollution Control Officer*. An *incinerator* so designated shall be subject to the *emission* limitations set forth in subsection(3)(a) of this section, concerning *combustion contaminants*.

(3) *Combustion Contaminants*

(a) A *person* shall not discharge, cause, suffer, allow or permit the *emission* of *particulate matter* caused by the combustion of *fossil fuel* in *fuel burning equipment* from any *stack* or chimney in excess of the following *emission* limits:

(i) 0.5 pounds per hour per million BTU's of *heat input* in combustion installations where the *heat input* is 10 million BTU's or less per hour.

(ii) For combustion installations where the *heat input* is greater than 10 million BTU's per hour, but where the *heat input* is equal to or less than 250 million BTU's per hour, the applicable limit is determined by using the following formula:

$$E_{PM} = 10^{[-0.47039 \text{ x } (\log_{10}\text{HI})+0.16936]}$$

where:

E_{PM} - is the *particulate matter emission* limit, expressed to the nearest hundredth pound per hour per million BTU's; and

HI - is the *heat input* in millions of BTU's per hour.

(iii) 0.1 pounds per hour per million BTU's of *heat input* in installations where the *heat input* is greater than 250 million BTU's per hour, but where the *heat input* is equal to or less than 1000 million BTU's per hour.

(iv) 0.06 pounds per hour per million BTU's of *heat input* in installations where the *heat input* is greater than 1000 million BTU's per hour.

(b) A *person* shall not discharge, cause, suffer, allow, or permit the *emission* of *particulate matter* caused by the combustion of *wood fuel* in *fuel burning equipment* from any *stack* or chimney:

(i) In excess of 0.45 grains per dry standard cubic foot (gr/DSCF) of exhaust gas corrected to 12% CO_2 in any combustion installation that has a rated output of greater than 90 *H.P.* which *commenced operation* prior to December 5, 1977.

(ii) In excess of 0.20 gr/DSCF corrected to 12% CO_2 in any combustion installation that has a rated output of greater than 90 *H.P.*, but less than 1300 *H.P.*, which *commences operation* after December 5, 1977.

(iii) In excess of 0.10 gr/DSCF corrected to 12% CO_2 in any combustion installation that has a rated output of 1300 *H.P.* or greater which *commences operation* after December 5, 1977.

Any *wood fuel burning equipment* that has a rated output of 90 *H.P.* or less shall not be subject to these *particulate matter emission* standards.

When any *fossil fuel* is burned in combination with *wood fuel*, and the *fossil fuel* contributes less than 50% of the total BTU input, the above *particulate matter* standards shall apply. If the *fossil*

fuel contributes more than 50% of the total BTU input, subsection (3)(a) of this regulation shall apply.

When a soot blowing cycle exceeds 15 minutes, separate *emissions* testing for *particulate matter emissions* during the soot blowing cycle may be required in addition to *emissions* testing during normal operating conditions pursuant to Regulation 5-404 below. In this event, the *emission* rate calculated for the soot blowing cycle shall be prorated over the time period between soot blowing cycles.

(c) The *emission* standards in this regulation apply to installations in which *fuel* is burned for the primary purpose of producing steam, hot water, hot air or other liquids, gases, or solids, and in the course of doing so, the products of combustion do not come into direct contact with the process material. *Fuel* includes coal, coke, lignite, *fuel oil*, wood, and combustible *refuse*. When any product or byproducts of a manufacturing process are burned for said purpose, or in conjunction with any *fuel*, the *emission* standards above shall apply.

(4) *Fugitive Particulate Matter*

A *person* shall not cause, suffer, allow, or permit any process operation to operate; any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent *particulate matter* from becoming airborne. Public roads will not be subject to this section unless a public nuisance is created.

(5) Hot Mix Asphalt Plants

A *person* shall not discharge or cause, suffer, allow or permit the *emission* of *particulate matter* in excess of 90 milligrams per dry standard cubic meter (0.04 grains per dry standard cubic foot) from a hot mix asphalt plant constructed after April 30, 1971.

For the purposes of this subsection, a hot mix asphalt plant is comprised of any combination of the following: rotary drier, screening and classifying equipment, aggregate weighing system, mixer, storage bins, conveying equipment, and transfer systems.

5-241 PROHIBITION OF NUISANCE AND ODOR

(1) Nuisance

A *person* shall not discharge, cause, suffer, allow, or permit from any source whatsoever such quantities of *air contaminants*, or *odors* beyond the property line of a premises, which will cause injury, detriment, nuisance or annoyance to any considerable number of people or to the public or which endangers the comfort, repose, health or safety of any such *persons* or the public or which causes or has a natural tendency to cause injury or damage to business or property.

(2) Control of *Odor* from Industrial Processes

(a) No *person* shall operate or use any device, machine, equipment or other contrivance for an industrial process which as determined by the *Air Pollution Control Officer* is an odoriferous process per se, unless all gases, vapors, and gas-entrained effluents from such facility are incinerated at a temperature of 871 degrees C (1600 degrees F) for a period of not less than five-tenths (0.5) second, or processed in such manner as determined by the *Air Pollution Control Officer* to be equally or more effective for the purpose of *air pollution* control.

(b) Effective devices and measures shall be installed and operated in a manner such that no vent, exhaust pipe, blow-off pipe or opening of any kind shall discharge into the open air or atmosphere any odorous matter, *air contaminants*, dusts or any combination thereof which create *odors* or other nuisances.

(c) *Odor*-producing materials shall be confined and handled in a manner such that *odors* produced within or outside the plant from such materials are controlled. Accumulation of *odor*-producing materials resulting from spillage or other means is prohibited.

(d) *Odor*-bearing *air contaminants* arising from materials in process shall be confined at the point of origin so as to prevent liberation of odorous matter into the workroom and the confined *air contaminants* shall be treated before discharge to the atmosphere, as required in subsection (3)(a).

(e) Whenever *air contaminants* escape from a building or buildings used for processing, handling or storage of materials used in the industrial processes specified in subsection (3)(a) in such manner and amount as to cause a nuisance or to violate these regulations, the *Air Pollution Control Officer* shall order that said building or buildings be tightly closed and ventilated in such a way that all *air contaminants* are treated by *incinerator* or other means effective for their removal or destruction before discharge to the open air.

5-251 CONTROL OF NITROGEN OXIDES EMISSIONS

(1) No *person* shall discharge, or cause, allow or permit *emissions* of oxides of nitrogen, expressed as NO_x, from any steam generating *fuel burning equipment* with a *heat input* capacity of 250 million BTU's per hour or more in excess of:

(a) 0.36 grams per million calories *heat input* (0.20 pounds per million BTU) derived from gaseous *fossil fuel*.

(b) 0.54 grams per million calories *heat input* (0.30 pounds per million BTU) derived from liquid *fossil fuel*.

(c) 1.26 grams per million calories *heat input* (0.70 pounds per million BTU) derived from solid *fossil fuel* (except lignite or a *fossil fuel* containing 25 percent by weight, or more of coal *refuse*).

(2) *Reasonably available control technology* for large stationary sources.

(a) The owner or operator of any *stationary source* that has *allowable emissions* of one hundred (100) *tons* per year or more of nitrogen oxides shall install, maintain and use *reasonably available control technology*, approved by the *Secretary*, to limit the discharge of nitrogen oxides from the source by *commencement of operation*.

(b) Any source that becomes or is currently subject to the provisions of this subsection by exceeding the applicability threshold in paragraph (2)(a) of this subsection shall remain subject to these provisions even if its *emissions* later fall below the applicability threshold.

(c) Exemptions. Any NO_x *emission* unit required to meet the *most stringent emission rate (MSER)* in a construction permit containing specific *emission* limits is exempt from the requirements of Section 5-251(2).

5-252 CONTROL OF SULFUR DIOXIDE EMISSIONS

No *person* shall discharge, or cause, allow or permit *emissions* of sulfur dioxide from any steam generating *fuel burning equipment* with a *heat input* capacity of 250 million BTU's per hour or more in excess of:

(a) 1.4 grams per million calories *heat input* (0.80 pounds per million BTU) derived from liquid *fossil fuel*.

(b) 2.2 grams per million calories *heat input* (1.2 pounds per million BTU) derived from solid *fossil fuel*.

5-253 CONTROL OF VOLATILE ORGANIC COMPOUNDS

5-253.1 Petroleum Liquid Storage in Fixed Roof Tanks

(a) Applicability. This subsection shall apply to any above ground fixed roof storage tank with a capacity greater than 40,000 gallons (151,417 liters) used to store petroleum liquid having a *true vapor pressure* equal to or greater than 1.52 pounds per square inch (10.5 kilopascals).

(b) Standards.

(1) The owner or operator of a fixed roof tank subject to this subsection shall equip the tank with an internal floating roof equipped with a closure seal or seals to close the space between the roof edge and tank wall.

(2) The owner or operator of a fixed roof tank subject to this subsection shall ensure that:

(i) The tank is maintained so that there are no visible holes, tears or other openings in the seal or any seal fabric or materials; and

(ii) All openings, except stub drains, are equipped with covers, lids or seals so that:

(A) The cover, lid or seal is in the closed position at all times except when in actual use;

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

(C) Rim vents, if provided, are set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

(c) Inspection requirements. The owner or operator of a fixed roof tank subject to this subsection shall perform the following inspections:

(1) For tanks with a single seal system:

(i) Visually inspect the internal floating roof and its closure seal or seals through roof hatches at least once every 12 months; and

(ii) Perform a complete inspection of any cover and single seal whenever the tank is emptied for reasons other than routine operations or at least every 10 years, whichever is more frequent.

(2) For tanks equipped with a double seal system:

(i) Visually inspect the internal floating roof and its closure seal or seals through the roof hatches at least once every 5 years; and

(ii) Perform a complete inspection of any cover and double seal whenever the tank is emptied for reasons other than routine operations or at least every 5 years, whichever is more frequent; or

(iii) An alternative means of inspection and compliance monitoring of equal or greater effectiveness as the inspection requirement of paragraph (c)(2)(ii), that is approved by the *Secretary*.

(d) Record keeping. The owner or operator of a petroleum liquid storage tank with a fixed roof subject to this subsection shall maintain the following records in a readily accessible location for a minimum of three years and shall make copies of the records available to the *Air Pollution Control Officer* upon request:

(1) Records of the types of volatile petroleum liquids stored in that tank;

(2) Records of the maximum *true vapor pressure* as stored; and

(3) Records of the results of inspections required in paragraph (c) of this subsection.

(e) Compliance. Fixed roof tanks subject to this subsection shall be in compliance on or before the effective date of this rule.

5-253.2 Bulk Gasoline Terminals

(a) Applicability. This subsection shall apply to all *loading racks* that deliver liquid products into *gasoline tank trucks* at a *bulk gasoline terminal*. Once a facility is subject to this subsection, it shall remain so, even if the throughput falls below the applicability threshold.

(b) Standards.

(1) All of the *loading racks* at a *bulk gasoline terminal* subject to this subsection shall be equipped with a *vapor collection system* and *vapor control system* designed to collect and control the organic compound liquids or vapors displaced from *gasoline tank trucks* during product loading.

(2) Each *vapor collection system* shall be designed to prevent any *volatile organic compound* vapors collected at one *loading rack* from passing to another *loading rack*.

(3) The owner or operator of a *bulk gasoline terminal* shall load *gasoline* into *vapor-tight gasoline tank trucks* only, using the following procedures:

(i) Obtain the vapor-tightness documentation for each *gasoline tank truck* prior to loading the tank truck at a *loading rack* subject to this subsection;

(ii) Record the tank identification number of each *gasoline tank truck* as it is loaded at the terminal;

(iii) Cross-check each tank identification number obtained with the tank vapor-tightness documentation on file at the *bulk gasoline terminal* within 2 weeks after the corresponding tank is loaded;

(iv) Notify the owner or operator of each previously loaded *gasoline tank truck* that is not *vapor-tight* within 3 weeks after the loading has occurred; and

(v) Assure that any non-*vapor-tight gasoline tank truck* will not be reloaded at a loading rack until vapor-tightness documentation for that tank truck is obtained.

(4) The terminal owner or operator shall ensure that the loading of *gasoline tank trucks* at the *loading rack* is limited to tank trucks equipped with vapor collection equipment that is compatible with the *vapor collection system* at the terminal.

(5) The terminal owner or operator shall ensure that the *vapor collection system* of the terminal and the tank truck are connected during each loading of a *gasoline tank truck* at the *loading rack*.

(6) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the *gasoline tank truck* from exceeding 450 mm of water during product loading.

(7) No pressure-vacuum vent in the *bulk gasoline terminal's vapor collection system* shall begin to open at pressure less than 450 mm of water.

(8) The total amount of organic compounds emitted to the atmosphere released from the *vapor collection system* and *vapor control system* during the loading of *gasoline tank trucks* shall not exceed 4.7 grains per gallon (80 mg/L) of *gasoline* loaded.

(9) Loading of *gasoline tank trucks* at bulk terminals shall be by *submerged fill* only.

(c) Inspection requirements. The terminal owner or operator shall inspect the *vapor collection system*, the *vapor control system* and each *loading rack* every calendar month for liquid and vapor leaks during transfer operations. Detection methods using sight, sound or smell are acceptable. Each leak detected shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.

(d) Test methods. Compliance with this subsection shall be determined using the test procedures set forth by the *Air Pollution Control Officer*.

(e) Record keeping.

(1) The owner or operator of a *bulk gasoline terminal* shall maintain records for a minimum of three years on the following:

(i) Tank truck tightness documentation shall be kept on file at the terminal in a permanent form available for inspection. The documentation file for each *gasoline tank truck* shall be updated at least once per year to record current test results as determined by test method 27.

(ii) Documentation shall include, but is not limited to, the following:

(A) Test title: Gasoline Delivery Truck Pressure Test--EPA Reference Method 27;

(B) Tank owner name and address;

(C) Tank identification number;

(D) Testing location;

(E) Date of test;

(F) Tester's name and signature;

(G) Name, signature and affiliation of any witnessing inspector; and

(H) Test results: actual pressure change in 5 min., recorded in mm of water (average for two runs).

(2) The owner or operator of the *bulk gasoline terminal* shall keep a record of monthly leak inspections on file at the terminal. Inspection records shall include, but are not limited to, the following information:

(i) Date of inspection;

(ii) Description of leaks found during inspection, if any;

(iii) Leak determination method used;

(iv) Corrective action taken including date leak repaired; and

(v) Inspector's name and signature.

(3) The owner or operator of a *bulk gasoline terminal* shall maintain records of daily throughput.

(4) All records required under this subsection shall be made available for inspection during normal business hours and copies shall be provided to the *Air Pollution Control Officer* upon request.

(f) Compliance. A *bulk gasoline terminal* subject to this subsection shall be in compliance on or before the effective date of this rule.

5-253.3 Bulk Gasoline Plants

(a) Applicability.

(1) This subsection shall apply to any *bulk gasoline plant* with an average daily throughput of 3,000 gallons or greater calculated on a calendar month basis. Once a *bulk gasoline plant* is subject to this subsection, it shall remain so, even if its throughput later falls below the applicability threshold. Any *bulk gasoline plant* with a throughput which is below the threshold shall comply with the requirements of paragraphs (b)(3)(vii), (viii), (ix) and (d)(1)(i) only.

(2) This subsection shall also apply to any *bulk gasoline plant*, regardless of its gasoline throughput, for which construction or reconstruction is commenced after January 1, 2001.

(b) Standards.

(1) The owner or operator of a *bulk gasoline plant* shall equip each *gasoline* storage tank with a *submerged fill* pipe and shall equip the *bulk gasoline plant* with a *vapor balance system* between the *gasoline* storage tank and the incoming *gasoline tank truck*. The lines shall be equipped with fittings that are *vapor-tight* and that automatically and immediately close upon disconnection.

(2) The owner or operator of a *bulk gasoline plant* shall equip the plant's *loading rack(s)* for *submerged fill* and shall equip the *bulk gasoline plant* with a *vapor balance system* between the *gasoline* storage tank and the outgoing *gasoline tank truck*. The *vapor balance system* shall be designed to prevent any vapors collected at one *loading rack* from passing to another *loading rack*. The lines shall be equipped with fittings that are *vapor-tight* and that automatically and immediately close upon disconnection.

(3) The owner or operator of a *bulk gasoline plant* required to maintain and operate a *vapor balance system* under this subsection shall ensure that the following procedures are complied with during *gasoline* loading and unloading operations and in the storage of *gasoline*:

(i) The *vapor balance system* shall be connected between the *gasoline tank truck* and the storage tank during all transfer operations and the connection shall be *vapor-tight*;

(ii) All storage tank openings, including inspection hatches and gauging and sampling devices, shall be *vapor-tight* when not in use;

(iii) The *gasoline tank truck* compartment hatch covers shall remain closed during the transfer of *gasoline*;

(iv) The *vapor balance system* shall be designed and operated at all times to prevent gauge pressure in the *gasoline tank truck* from exceeding 18 inches (450 millimeters [mm]) of water and vacuum from exceeding 5.9 inches (150 mm) of water during product transfer;

(v) No pressure vacuum relief valve in the *bulk gasoline plant vapor balance system* shall begin to open at a system pressure of less than 18 inches (450 mm) of water or at a vacuum of less than 5.9 inches (150 mm) of water;

(vi) All product transfers shall be limited to *vapor-tight gasoline tank trucks* or *account trucks* [for definition of account truck see Section 5-253.5(b)];

(vii) The filling of storage tanks shall be accomplished by *submerged fill* only;

(viii) The loading of outgoing *gasoline tank trucks* and *account trucks* [for definition of account truck see Section 5-253.5(b)] shall be accomplished by *submerged fill* only; and

(ix) The owner or operator of the *gasoline bulk plant* or the *gasoline tank truck* shall observe the entire transfer operation and shall discontinue transfer if any liquid or vapor leaks are observed.

(c) Inspection and monitoring requirements.

(1) The *bulk gasoline plant* owner or operator shall inspect the *vapor balance system* and each *loading rack* every calendar month for liquid and vapor leaks during *gasoline* transfer operations. Detection methods using sight, sound, or smell are acceptable. Each leak detected shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.

(2) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument) capable of measuring 20 in. of water gauge pressure within a $\pm$ 0.5 inches of water precision, shall be calibrated and installed on the *bulk gasoline plant vapor balance system*, if applicable, at a pressure tap, located as close as possible to the connection with the *gasoline tank truck*, to allow determination of compliance with paragraph (b)(3)(iv).

(d) Record keeping.

(1) The owner or operator of a *bulk gasoline plant* which is subject to this subsection shall maintain the following records for a minimum of three years:

(i) Daily records showing the quantity of all *gasoline* transferred into *gasoline tank trucks* and *account trucks* [for definition of account truck see Section 5-253.5(b)].

(ii) A record of each monthly leak inspection shall be kept on file at the plant. The inspection records shall include but are not limited to:

(A) The date of inspection;

(B) Findings, including a description of leaks found, if any;

(C) Leak determination method;

(D) Corrective action taken, including the date each leak was repaired; and

(E) The inspector's name and signature.

(2) All records required under this subsection shall be made available for inspection during normal business hours and copies shall be provided to the *Air Pollution Control Officer* upon request.

(e) Compliance. All *bulk gasoline plants* subject to this subsection shall comply with this subsection by July 1, 1994 or by the *commencement of plant operation*, whichever occurs later.

5-253.4 Gasoline Tank Trucks

(a) Applicability. This subsection shall apply to all *gasoline tank trucks.*

(b) Standards.

(1) The owner or operator of a *gasoline tank truck* shall ensure that the *gasoline tank truck*:

(i) Is tested and certified as a vapor-tight gasoline tank truck; and

(ii) Displays a sticker consistent with the Department of Transportation regulations regarding certification of cargo tanks that shows the date that the gasoline tank truck last passed the certification test required in paragraph (b)(1)(i).

(2) Is maintained with hatches closed at all times except during the measurement of product level or maintenance, which shall not be performed during product loading.

(3) Is connected to the vapor balance equipment during the loading and unloading of *gasoline*.

(c) Testing.

(1) The *Air Pollution Control Officer* may, at any time, monitor a *gasoline tank truck* to confirm continuing compliance with this subsection using standard United States Environmental Protection Agency procedures to confirm the continuing existence of *vapor-tight* conditions.

(2) The owner or operator of a *gasoline tank truck* that fails to meet any of the certification standards shall repair and retest the *gasoline tank truck* within 15 days of the test failure. No owner or operator of any *gasoline tank truck* may use or permit or authorize the use of any *gasoline tank truck* which fails to meet all of the requirements of this subsection after retesting.

(d) Record keeping.

(1) The owner or operator of a *gasoline tank truck* subject to this subsection shall maintain records of all certification, testing and repairs. The records shall include, at a minimum, the following:

(i) The *gasoline tank truck* identification number, which shall include the manufacturer's serial number, vehicle identification number or the owner's identification number; and

(ii) The date and location of the most recent pressure-vacuum test, and, if failed, the date and location of the retest shall also be recorded.

(2) Test records shall contain the following:

(i) At the top of each page of the report, the name, title and telephone number of the *person* who conducted the test, the name of the company where the *person* is employed; and

(ii) A copy of the test record showing the following:

(A) The tank pressure at the start of the pressure test and the time of the reading;

(B) The tank pressure at the end of the pressure test and the time of the reading;

(C) The tank pressure at the start of the vacuum test and the time of the reading;

(D) The tank pressure at the end of the vacuum test and the time of the reading; and

(E) A list of all repairs which were made to the tank truck to pass all applicable requirements of the test method.

(3) Copies of the records shall be retained by the owner or operator of the *gasoline tank truck* for a minimum of three years after the date on which the test was conducted. These records shall be available for inspection during normal business hours and copies shall be provided to the *Air Pollution Control Officer* upon request.

(e) Reporting.

(1) The owner or operator of a *gasoline tank truck* subject to this subsection shall certify to the *Air Pollution Control Officer* on an annual basis that it is a *vapor-tight gasoline tank truck*. The certification shall include:

(i) The name address and telephone number of the company and the name and telephone number of the company representative whose signature appears on the certification; and

(ii) A copy of the information recorded to comply with paragraph (d) of this subsection.

(f) Reciprocity. The requirements for testing and marking *gasoline tank trucks* subject to this subsection will be satisfied if, in the judgment of the *Secretary*, the vehicle undergoes equivalent certification in another state.

(g) Compliance. *Gasoline tank trucks* subject to this subsection shall be in compliance on or before the effective date of this rule.

5-253.5 Stage I Vapor Recovery Controls at Gasoline Dispensing Facilities

(a) Applicability.

(1) This section shall apply to all *gasoline dispensing facilities* and the appurtenant equipment necessary to a *gasoline dispensing facility*, except as provided below.

(2) Except for the requirement in subsection (c)(1)(i) that the filling of *gasoline* storage tanks shall be by submerged fill only, *gasoline*

dispensing facilities which receive deliveries from *account trucks* only are exempt from the provisions of this section.

(3) Once a *gasoline dispensing facility* become subject to subsection (e) of this section because of an increase in *monthly gasoline throughput*, it shall remain so, even if the throughput falls below the applicability threshold.

(4) *Gasoline dispensing facilities* are also required to comply with "National Emission Standards for Hazardous Air Pollutants from Source Category: Gasoline Dispensing Facilities", 40 CFR Part 63, Subpart CCCCCC.

(b) Definitions. For the purpose of this subsection, the following definitions apply, in addition to those of Section 5-101 of this chapter:

"Account truck" means a delivery truck with a capacity of less than 4,000 gallons which delivers *gasoline* to businesses, retail outlets and farms.

"Dual-point Stage I vapor recovery system" means a type of *Stage I vapor recovery system* in which the *gasoline* storage tank is equipped with an entry port for a *gasoline* fill pipe and a separate exit port for a vapor connection.

"Monthly gasoline throughput" means the total volume of *gasoline* that is loaded into, or dispensed from, all *gasoline* storage tanks at each *gasoline dispensing facility* during a month. Monthly throughput is calculated by summing the volume of *gasoline* loaded into, or dispensed from, all *gasoline* storage tanks at each *gasoline dispensing facility* during the current day, plus the total volume of *gasoline* loaded into, or dispensed from, all *gasoline* storage tanks at each *gasoline dispensing facility* during the previous 364 days, and then dividing that sum by 12.

"Stage I vapor recovery system" means a system in which *gasoline* vapors are forced from the storage tank into a *vapor-tight gasoline tank truck* or *vapor collection* and *control system* through direct displacement by the *gasoline* loaded into the storage tank.

"Startup" means the setting in operation of a *gasoline dispensing facility* subject to this section or a portion of a *gasoline dispensing facility* subject to this section for any purpose.

(c) Standards.

(1) The owner or operator of a *gasoline dispensing facility* subject to this section which receives deliveries of *gasoline* into *gasoline storage tanks* from a *gasoline tank truck* shall install, operate and maintain a *Stage I vapor recovery system* that meets the following design criteria:

(i) The filling of *gasoline* storage tanks shall be by *submerged fill* only;

(ii) All vapor lines on the *gasoline* storage tank are equipped with closures that seal upon disconnect;

(iii) The *Stage I vapor recovery system* shall not cause the pressure in the *gasoline tank truck* to exceed 18 inches of water pressure or 5.9 inches of water vacuum during product transfer;

(iv) At *gasoline dispensing facilities* employing dual-point *Stage I vapor recovery*, the vapor recovery and product adaptors, and the method of connection with the delivery elbow, shall be designed so as to prevent the over-tightening or loosening of fittings during normal delivery operations;

(v) If a gauge well separate from the fill tube is used, it shall be provided with a drop tube that extends to within 6 inches of the bottom of the *gasoline* storage tank;

(vi) All liquid fill connections on *gasoline* storage tanks shall be equipped with vapor-tight caps;

(vii) Pressure/vacuum (PV) vent valves shall be installed on the *gasoline* storage tank vent pipes. The pressure specifications for PV vent valves shall be: a positive pressure setting of 2.5 to 6.0 inches of water and a negative pressure setting of 6.0 to 10.0 inches of water. The total leak rate of all PV vent valves at the facility, including connections, shall not exceed 0.17 cubic foot per hour at a pressure of 2.0 inches of water and 0.63 cubic foot per hour at a vacuum of 4 inches of water;

(viii) The *Stage I vapor recovery system* shall be capable of meeting the static pressure performance requirement of the following equation:

$$Pf = 2e^{(-500.887/v)}$$

Where:
Pf = Minimum allowable final pressure, inches of water;
v = Total ullage affected by the test, gallons;
e = Dimensionless constant equal to approximately 2.718;
2 = The initial pressure, inches of water.

The pressure performance requirement can also be determined from the table in Appendix G of these regulations;

(ix) Any *gasoline dispensing facility* that is a newly constructed source, is a *reconstructed source*, or installs a new *gasoline* storage tank or tanks after July 1, 2015 shall equip all its *gasoline* storage tanks with a dual-point *Stage I vapor recovery system* at the time specified in subsection (g)(3) of this section.

(2) During the transfer of *gasoline* from the *gasoline tank truck* to the *gasoline* storage tank, the owner or operator of a *gasoline tank truck* delivering *gasoline* to a *gasoline dispensing facility* subject to this subsection shall ensure that:

(i) All hoses in the *vapor balance system* are properly connected;

(ii) The adaptors or couplers that attach to the vapor line on the *gasoline storage tank* have closures that seal upon disconnect;

(iii) All vapor return hoses, couplers and adapters used in the *gasoline* delivery are *vapor-tight*;

(iv) All vapor return equipment on the *gasoline tank truck* is compatible with the *Stage I vapor recovery system* installed on the *gasoline* storage tank;

(v) All hatches on the *gasoline tank truck* are closed and securely fastened; and

(vi) The filling of *gasoline* storage tanks at *gasoline dispensing facilities* is limited to unloading by *vapor-tight gasoline tank trucks*. Documentation that the *gasoline tank truck* is a *vapor tight gasoline tank truck* shall be carried on the tank truck. This documentation shall include test results of the pressure and vacuum tests.

(3) The *owner* or *operator* must, at all times, operate and maintain any *gasoline dispensing facility* subject to this section, including associated air pollution control and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the *Air Pollution Control Officer* which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the *gasoline dispensing facility*.

(4) The *owner* or *operator* of any *gasoline dispensing facility* subject to this section must not allow *gasoline* to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

(i) Minimize *gasoline* spills;

(ii) Clean up spills as expeditiously as practicable;

(iii) Cover all open *gasoline* containers and all *gasoline* storage tank fill-pipes with a gasketed seal when not in use; and

(iv) Minimize *gasoline* sent to open waste collection systems that collect and transport *gasoline* to reclamation and recycling devices, such as oil/water separators.

(d) Inspection requirements.

(1) Each month, the *owner* or *operator* of a *gasoline dispensing facility* subject to this section shall inspect the *Stage I vapor recovery system* as follows:

(i) Check for the presence of PV vent valves and any visible damage;

(ii) Check each fill adaptor cap for the presence of a gasket and tightness of fit;

(iii) Check each vapor adaptor (dry break or poppet valve) to ensure the poppet valve depresses and reseats properly and makes a tight seal with the vapor adaptor valve seat;

(iv) Check each vapor adaptor cap for the presence of a gasket and tightness of fit.

(2) Each calendar year, but no sooner than 10 months after the prior annual inspection, the *owner* or *operator* of a *gasoline dispensing facility* subject to this section shall inspect the *Stage I vapor recovery system* as follows:

(i) Check each fill adaptor to ensure it is threaded tightly onto the riser pipe;

(ii) Check each vapor adaptor to ensure it is threaded tightly onto the riser pipe;

(iii) Check the in-tank monitor caps for tightness of fit and check the probe wire grommet to ensure it is sealed tightly around the probe wire;

(iv) Check any spill bucket drain valves for a tight seal;

(v) Other components identified by the *Air Pollution Control Officer*.

(3) Any component of the *Stage I vapor recovery system* identified as missing, worn, or ineffective during an inspection required by subsection (d)(1) or (2) shall be repaired or replaced by the *owner* or *operator* of the *gasoline dispensing facility* to ensure the vapor-tight integrity and efficiency of the *Stage I vapor recovery system*. An initial attempt to repair or replace any missing, worn or ineffective component shall be made as soon as practical. The defective component shall be repaired or replaced within 15 calendar days after the inspection that found the deficiency. If repair or replacement is not completed within 15 days, the *owner* or *operator* shall immediately notify the *Air Pollution Control Officer* of the reason(s) that the defective component cannot be repaired or replaced, and the *Air Pollution Control Officer* may authorize additional time for the repair or replacement.

(e) Testing.

(1) The *owner* or *operator* of any *gasoline dispensing facility* with a *monthly gasoline throughput* of 100,000 gallons/month or greater shall conduct and pass the following tests on the *gasoline dispensing facility's Stage I vapor recovery system* every three years beginning no later than 90 days after the effective date of this regulation:

(i) A pressure decay test performed in accordance with:

(A) California Air Resources Board Vapor Recovery Test Procedure TP-201.3 - Determination of 2-inch WC static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, adopted April 12, 1996 and amended March 17, 1999;

(B) Bay Area Air Quality Management District Source Test Procedure ST-30 – Static Pressure Integrity Test – Underground Storage Tanks, adopted November 30, 1983 and Amended December 31, 1994; or

(C) An alternative method as approved by the *Air Pollution Control Officer* and *EPA*.

(ii) A leak rate and cracking pressure test on any pressure/vacuum vent valves performed in accordance with:

(A) California Air Resources Board Vapor Recovery Test Procedure TP-201.1E - Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, adopted October 8, 2003;

(B) An alternative method as approved by the *Air Pollution Control Officer* and *EPA*.

(2) The *owner* or *operator* of a *gasoline dispensing facility* subject to this subsection shall notify the *Air Pollution Control Officer* at least 5 calendar days in advance as to when the testing in subsection (e)(1)(i) or (ii) will occur and what party will conduct the testing.

(3) A copy of the test results shall be submitted to the *Air Pollution Control Officer* within 30 calendar days of completion of the above testing.

(4) An *owner* or *operator* who performs and passes all testing required by subsection (e)(1) of this section, on or before September 1 of the appropriate year will be considered to be in compliance for that year with the requirement for an annual inspection in subsection (d)(2) of this section.

(5) The *Air Pollution Control Officer* may require the *owner* or *operator* of a *gasoline dispensing facility* to conduct tests at any reasonable time to determine compliance with this section. The *Air Pollution Control Officer* or the *Officer's* representative may also conduct testing at any reasonable time for the same purpose.

(f) Record keeping and Reporting.

(1) The *owner* or *operator* of a *gasoline dispensing facility* shall maintain monthly records showing the quantity of all *gasoline* delivered to the site. Upon request by the *Air Pollution Control Officer* or *EPA*, the *owner* or *operator* of a *gasoline dispensing facility* shall document to the Agency the *monthly gasoline throughput* at the *gasoline dispensing facility* in the manner prescribed by the *Air Pollution Control Officer*.

(2) The *owner* or *operator* of a *gasoline dispensing facility* shall maintain records of the monthly inspections of the *Stage I vapor recovery system* in a format approved by the *Air Pollution Control Officer*;

(3) Each record required to be kept by this section shall be maintained by the *owner* or *operator* of the facility for a minimum of five years. These records shall be made available for inspection by representatives of the Agency during normal business hours and copies shall be provided to such representatives, to the *Air Pollution Control Officer*, or *EPA* upon request;

(4) By December 31 of each year, the *owner* or *operator* of a *gasoline dispensing facility* shall document and certify to the Agency compliance with subsection (d)(2) of this section in a manner prescribed by the *Air Pollution Control Officer*.

(g) Compliance.

(1) The *owner* or *operator* of any *gasoline dispensing facility* subject to this section shall comply with this section on or before July 1, 2015, except as provided below.

(2) The *owner* or *operator* of any *gasoline dispensing facility* that is a newly constructed or *reconstructed* source for which construction commences after July 1, 2015 shall comply with this section upon *startup* of the facility.

(3) The owner or operator of a *gasoline dispensing facility* shall comply with subsection (c)(1)(ix) of this section regarding equipping its *gasoline* storage tanks with a *dual-point Stage I vapor recovery system* as follows:

(i) Any *gasoline dispensing facility* that is a newly constructed or *reconstructed source* for which construction commences after July 1, 2015 shall comply with subsection (c)(1)(ix) of this section upon *startup* of the facility.

(ii) Any *gasoline dispensing facility* existing on July 1, 2015 at which a new *gasoline* storage tank or tanks are installed shall comply with subsection (c)(1)(ix) of this section upon *startup* of operation of the first new tank.

(4) The *owner* or *operator* of a *gasoline dispensing facility* that becomes subject to the requirements in subsection (e) of this section regarding testing because of an increase in *monthly gasoline throughput* shall comply with subsection (e) of this section by the end of the first calendar year following the year in which the *monthly gasoline throughput* exceeded 100,000 gallons. Testing shall continue to be conducted every 3 years after the testing is first required to be conducted and passed.

5-253.6 Volatility of *Gasoline*

(a) No *person* shall sell or supply as *fuel* at or from *bulk gasoline terminals* and *bulk gasoline plants* a *gasoline* having a *Reid vapor pressure* greater than 9.0 pounds per square inch during the period May 1 through September 15 of each year, beginning in 1989.

(b) The owner or operator of any *bulk gasoline plant* or *bulk gasoline terminal* from which *gasoline* is distributed shall maintain records of the *Reid vapor pressure* of any *gasoline* that is delivered to or distributed from the facility for at least two calendar years.

(c) Any *person* who sells or supplies *gasoline* to retailers, other merchants, and/or industrial, institutional or commercial users shall clearly designate the maximum *Reid vapor pressure* of the *gasoline* and the time period in which it is intended to be dispensed.

(d) Sampling and analysis of *gasoline Reid vapor pressure* shall be conducted in accordance with *ASTM* Method D270 and *ASTM* Method D323, respectively, or any *equivalent method* approved by the *Air Pollution Control Officer*.

(e) The *Secretary*, either upon his or her own initiative or upon application by any *person* affected by this rule, may grant a temporary exemption from the requirements of Section 5-253.6(a), if he or she finds that quantities of *gasoline* sufficient to meet the demand in the state of Vermont cannot be manufactured or distributed in time to meet all the requirements of Section 5-253.6 or that supply problems would work an undue hardship on any retail outlet.

(i) An exemption under this subsection shall be granted for a specified time period, not to exceed one year. An exemption may be renewed, if appropriate.

(ii) The *Secretary* may impose an interim volatility standard and/or restrictions on the quantity of *gasoline* permitted to be supplied as conditions of any exemption granted pursuant to this subsection.

5-253.7 [REPEALED] Repealed pursuant to 10 V.S.A. §583(a), eff. January 1, 2013.

5-253.8 ~~Reserved.~~Industrial Adhesives

(a) Applicability.

(1) Except as provided below, this section applies to any person who uses, applies, sells, supplies, offers for sale or manufactures for

sale any adhesive, sealant, adhesive primer or sealant primer for use in Vermont.

(2) Exemptions. This section shall not apply to the following:

(i) Any adhesive, sealant, adhesive primer or sealant primer that is sold, supplied or offered for sale by any person to a retail outlet outside of Vermont.

(ii) Any of the following compounds or operations:

(A) Adhesives, sealants, adhesive primers or sealant primers being tested or evaluated in any research and development, quality assurance or analytical laboratory.
(B) Adhesives and sealants that contain less than 20 grams of VOC per liter of adhesive or sealant, less water and less exempt compounds, as applied.
(C) Cyanoacrylate adhesives.
(D) Adhesives, sealants, adhesive primers or sealant primers that are sold or supplied by the manufacturer or supplier in containers with a net volume of 16 fluid ounces or less, or a net weight of one pound or less, except plastic cement welding adhesives and contact adhesives.
(E) Contact adhesives that are sold or supplied by the manufacturer or supplier in containers with a net volume of one gallon or less.
(F) Tire repair operations, provided the label of the adhesive states "For tire repair only”.
(G) In the assembly, repair and manufacture of aerospace or undersea-based weapon systems.
(H) In the manufacture of medical equipment.
(I) Plaque laminating operations in which adhesives are used to bond clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992. Any person claiming such exemption shall maintain monthly operational records sufficient to demonstrate compliance.

(iii) Any stationary source whose total VOC emissions from all adhesives, sealants, adhesive primers and sealant primers used at the source are less than 200 pounds per 12 month rolling period. Any person claiming such exemption shall maintain monthly operational records sufficient to demonstrate compliance.

(iv) Each stationary source may use up to a combined 55 gallons per calendar year of adhesives, sealants, adhesive primers, sealant primers, cleanup solvents and surface preparation solvents that are noncomplying. Any person claiming such exemption shall maintain monthly operational records sufficient to demonstrate compliance.

(b) Definitions. For the purpose of this section, the following definitions apply, in addition to those of Section 5-101 of this chapter.

"Acrylonitrile-butadiene-styrene or ABS welding adhesive" means any adhesive intended by the manufacturer to weld acrylonitrile-butadiene-styrene pipe, which is made by reacting monomers of acrylonitrile, butadiene and styrene.

"Adhesive" means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

"Adhesive primer" means any product intended by the manufacturer for application to a substrate, prior to the application of an adhesive, to provide a bonding surface.

"Aerospace component" means for the purposes of this section, the fabricated part, assembly of parts or completed unit of any aircraft, helicopter, missile, or space vehicle, including passenger safety equipment.

"Aerosol adhesive" means an adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a non-refillable can designed for handheld application without the need for ancillary hoses or spray equipment.

"Architectural sealant or primer" means any sealant or sealant primer intended by the manufacturer to be applied to stationary structures, including mobile homes, and their appurtenances. Appurtenances to an architectural structure include, but are not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.

"Automotive glass adhesive primer" means an adhesive primer labeled by the manufacturer to be applied to automotive glass prior to installation of the glass using an adhesive/sealant. This primer improves the adhesion to pinch weld and blocks ultraviolet light.

"CARB" means the California Air Resources Board.

"Ceramic tile installation adhesive" means any adhesive intended by the manufacturer for use in the installation of ceramic tiles.

"Chlorinated polyvinyl chloride plastic" or "CPVC plastic" means a polymer of the vinyl chloride monomer that contains 67% chlorine and is normally identified with a CPVC marking.

"Chlorinated polyvinyl chloride welding adhesive" or "CPVC welding adhesive" means an adhesive labeled for welding of chlorinated polyvinyl chloride plastic.

"Cleanup solvent" means a VOC-containing material used to remove a loosely held uncured (i.e., not dry to the touch) adhesive or sealant from a substrate, or clean equipment used in applying a material.

“Computer diskette jacket manufacturing adhesive” means any adhesive intended by the manufacturer to glue the fold-over flaps to the body of a vinyl computer diskette jacket.

“Contact bond adhesive” means an adhesive that: (i) is designed for application to both surfaces to be bonded together, and (ii) is allowed to dry before the two surfaces are placed in contact with each other, and (iii) forms an immediate bond that is impossible, or difficult, to reposition after both adhesive-coated surfaces are placed in contact with each other, and (iv) does not need sustained pressure or clamping of surfaces after the adhesive-coated surfaces have been brought together using sufficient momentary pressure to establish full contact between both surfaces. “Contact Adhesive” does not include rubber cements that are primarily intended for use on paper substrates. “Contact Adhesive” also does not include vulcanizing fluids that are designed and labeled for tire repair only.

“Cove base” means a flooring trim unit, generally made of vinyl or rubber, having a concave radius on one edge and a convex radius on the opposite edge that is used in forming a junction between the bottom wall course and the floor or to form an inside corner.

“Cove base installation adhesive” means any adhesive intended by the manufacturer to be used for the installation of cove base or wall base on a wall or vertical surface at floor level.

“Cyanoacrylate adhesive” means any adhesive with a cyanoacrylate content of at least 95% by weight.

“Dry wall installation” means the installation of gypsum dry wall to studs or solid surfaces using an adhesive formulated for that purpose.

“Flexible vinyl” means non-rigid polyvinyl chloride plastic with at five percent by weight plasticizer content.

“Fiberglass” means a material consisting of extremely fine glass fibers.

“Indoor floor covering installation adhesive” means any adhesive intended by the manufacturer for use in the installation of wood flooring, carpet, resilient tile, vinyl tile, vinyl backed carpet, resilient sheet and roll or artificial grass. Adhesives used to install ceramic tile and perimeter bonded sheet flooring with vinyl backing onto a non-porous substrate, such as flexible vinyl, are excluded from this category.

“Laminate” means a product made by bonding together two or more layers of material.

“Low-solids adhesive, sealant or primer” means any product that contains 120 grams or less of solids per liter of material.

“Marine deck sealant” or “marine deck sealant primer” means any sealant or sealant primer labeled for application to wooden marine decks.

“Medical equipment manufacturing” means the manufacture of medical devices, such as, but not limited to, catheters, heart valves, blood

cardioplegia machines, tracheostomy tubes, blood oxygenators, and cardiatory reservoirs.

“Metal to urethane/rubber molding or casting adhesive” means any adhesive intended by the manufacturer to bond metal to high density or elastomeric urethane or molded rubber materials, in heater molding or casting processes, to fabricate products such as rollers for computer printers or other paper handling equipment.

“Motor vehicle adhesive” means an adhesive, including glass bonding adhesive, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied for the purpose of bonding two vehicle surfaces together without regard to the substrates involved.

“Motor vehicle weatherstrip adhesive” means an adhesive, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to weatherstripping materials for the purpose of bonding the weatherstrip material to the surface of the vehicle.

“Multipurpose construction adhesive” means any adhesive intended by the manufacturer for use in the installation or repair of various construction materials, including but not limited to drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile and acoustical tile.

“Nonmembrane roof installation/repair adhesive” means any adhesive intended by the manufacturer for use in the installation or repair of nonmembrane roofs and that is not intended for the installation of prefabricated single-ply flexible roofing membrane, including, but not limited to, plastic or asphalt roof cement, asphalt roof coating and cold application cement.

“Outdoor floor covering installation adhesive” means any adhesive intended by the manufacturer for use in the installation of floor covering that is not in an enclosure and that is exposed to ambient weather conditions during normal use.

“Panel installation” means the installation of plywood, pre-decorated hardboard (or tileboard), fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces using an adhesive formulated for that purpose.

“Perimeter bonded sheet flooring installation” means the installation of sheet flooring with vinyl backing onto a nonporous substrate using an adhesive designed to be applied only to a strip of up to four inches wide around the perimeter of the sheet flooring.

“Plastic cement welding adhesive” means any adhesive intended by the manufacturer for use to dissolve the surface of plastic to form a bond between mating surfaces.

“Plastic cement welding adhesive primer” means any primer intended by the manufacturer for use to prepare plastic substrates prior to bonding or welding.

“Plastic foam” means foam constructed of plastics.

“Plasticizer” means a material, such as a high boiling point organic solvent, that is incorporated into a vinyl to increase its flexibility, workability, or distensibility, as determined by ASTM Method E-260-96.

“Plastics” means synthetic materials chemically formed by the polymerization of organic (carbon-based) substances. Plastics are usually compounded with modifiers, extenders, and/or reinforcers and are capable of being molded, extruded, cast into various shapes and films or drawn into filaments.

“Polyvinyl chloride plastic” or “PVC plastic” means a polymer of the chlorinated vinyl monomer that contains 57% chlorine.

“Polyvinyl chloride welding adhesive” or “PVC welding adhesive” means any adhesive intended by the manufacturer for use in the welding of PVC plastic pipe.

“Porous material” means a substance that has tiny openings, often microscopic, in which fluids may be absorbed or discharged, including, but not limited to, wood, paper and corrugated paperboard.

“Propellant” means a fluid under pressure that expels the contents of a container when a valve is opened.

“Reactive diluent” means a liquid that is a reactive organic compound during application and one in that, through chemical and/or physical reactions, such as polymerization, twenty (20) percent or more of the reactive organic compound becomes an integral part of a finished material.

“Roadway sealant” means any sealant intended by the manufacturer for application to public streets, highways and other surfaces, including but not limited to curbs, berms, driveways and parking lots.

“Rubber” means any natural or manmade rubber substrate, including but not limited to, styrene-butadiene rubber, polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene and ethylene propylene diene terpolymer.

“SCAQMD” means the South Coast Air Quality Management District, a part of the California Air Resources Board, which is responsible for the regulation of air quality in the State of California.

“Sealant primer” means any product intended by the manufacturer for application to a substrate, prior to the application of a sealant, to enhance the bonding surface.

“Sealant” means any material with adhesive properties that is formulated primarily to fill, seal, waterproof or weatherproof gaps or joints between two surfaces. Sealants include sealant primers and caulks.

“Sheet-applied rubber installation” means the process of applying sheet rubber liners by hand to metal or plastic substrates to protect the underlying substrate from corrosion or abrasion. These operations also include laminating sheet rubber to fabric by hand.

“Single-ply roof membrane” means a prefabricated single sheet of rubber, normally ethylene-propylenediene terpolymer, that is field applied to a building roof using one layer of membrane material.

“Single-ply roof membrane installation and repair adhesive” means any adhesive labeled for use in the installation or repair of single-ply roof membrane. Installation includes, as a minimum, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes and ducts that protrude through the membrane. Repair includes gluing the edges of torn membrane together, attaching a patch over a hole and reapplying flashings to vents, pipes or ducts installed through the membrane.

“Single-ply roof membrane adhesive primer” means any primer labeled for use to clean and promote adhesion of the single-ply roof membrane seams or splices prior to bonding.

“Single-ply roof membrane sealant” means any sealant labeled for application to single-ply roof membrane.

“Solvent” means organic compounds that are used as diluents, thinners, dissolvers, viscosity reducers, cleaning agents or other related uses.

“Structural glazing adhesive” means any adhesive intended by the manufacturer to apply glass, ceramic, metal, stone or composite panels to exterior building frames.

“Subfloor installation” means the installation of subflooring material over floor joists, including the construction of any load bearing joists. Subflooring is covered by a finish surface material.

“Surface preparation solvent” means a solvent used to remove dirt, oil and other contaminants from a substrate prior to the application of a primer, adhesive or sealant.

“Thin metal laminating adhesive” means any adhesive intended by the manufacturer for use in bonding multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line(s) is less than 0.25 mils.

“Tire repair” means a process that includes expanding a hole, tear, fissure or blemish in a tire casing by grinding or gouging, applying adhesive and filling the hole or crevice with rubber.

“Tire tread adhesive” means any adhesive intended by the manufacturer for application to the back of precure tread rubber and to the casing and cushion rubber. Tire tread adhesive may also be used to seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.

“Traffic marking tape” means preformed reflective film intended by the manufacturer for application to public streets, highways and other surfaces, including but not limited to curbs, berms, driveways and parking lots.

"Traffic marking tape adhesive primer" means any primer intended by the manufacturer for application to surfaces prior to installation of traffic marking tape.

"Undersea-based weapons systems components" means the fabrication of parts, assembly of parts or completed units of any portion of a missile launching system used on undersea ships.

"Waterproof resorcinol glue" means a two-part resorcinol-resin-based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

(c) Standards.

(1) No person shall use, apply, sell, supply, offer for sale or manufacture for sale any adhesive, sealant, adhesive primer or sealant primer for use in Vermont with a VOC content in excess of the following emission limits:

Adhesive, sealant, adhesive primer or sealant primer category	**VOC content limit (grams VOC per liter[a])**
Adhesives	
ABS welding	400
Ceramic tile installation	130
Computer diskette jacket manufacturing	850
Contact bond	250
Cove base installation	150
CPVC welding	490
Indoor floor covering installation	150
Metal to urethane/rubber molding or casting	850
Motor vehicle adhesive	250
Motor vehicle weatherstrip adhesive	750
Multipurpose construction	200
Nonmembrane roof installation/repair	300
Other plastic cement welding	510
Outdoor floor covering installation	250
PVC welding	510
Single-ply roof membrane installation/repair	250
Structural glazing	100
Thin metal laminating	780
Tire retread (not tire repair)	100

Perimeter bonded sheet vinyl flooring installation	660
Waterproof resorcinol glue	170
Sheet-applied rubber installation	850
Sealants	
Architectural	250
Marine deck	760
Nonmembrane roof installation/repair	300
Roadway	250
Single-ply roof membrane	450
Other	420
Adhesive Primers	
Automotive glass	700
Plastic cement welding	650
Single-ply roof membrane	250
Traffic marking tape	150
Other	250
Sealant Primers Applied to the Listed Substrate	
Non-porous architectural	250
Porous architectural	775
Marine deck	760
Other	750
Adhesives Applied to the Listed Substrate	
Flexible vinyl	250
Fiberglass	200
Metal	30
Porous material except wood	120
Rubber	250
Wood	30
Other substrates	250
[a] VOC content values are expressed in units of mass of VOC per volume of coating, excluding water and exempt compounds, as applied.	

(2) Where an adhesive or sealant primer has a specific content limit in the table above, such specific limit shall apply rather than the respective substrate limit.

(3) Where a substrate limit applies in absence of a specific content limit in the table above, if an adhesive is used to bond dissimilar substrates together, the applicable substrate category with the highest VOC content shall apply.

(4) No person shall use materials for surface preparation with a VOC content in excess of 70 grams per liter except a material with a composite vapor pressure, excluding water and exempt compounds, not to exceed 45 mm Hg at 20 degrees Celsius may be used for surface preparation before applying single-ply roofing.

(5) No person shall use materials for the removal of adhesives, sealants, or adhesive or sealant primers from surfaces, other than spray application equipment, with a composite vapor pressure, excluding water and exempt compounds, in excess of 45 mm Hg at 20 degrees Celsius except as provided for in subsection (7)(vii) below.

(6) Container Labeling. Each manufacturer of an adhesive, sealant, adhesive primer or sealant primer subject to this section shall display the following information on the product container or label:

(i) A statement of the manufacturer's recommendation regarding thinning, reducing, or mixing of the product, except that:

(A) This requirement does not apply to the thinning of a product with water; and

(B) If thinning of the product prior to use is not necessary, the recommendation must specify that the product is to be applied without thinning;

(ii) The maximum or the actual VOC content of the product, as supplied, displayed in grams of VOC per liter of product; and

(iii) The maximum or the actual VOC content of the product, which includes the manufacturer’s maximum recommendation for thinning, as applied, displayed in grams of VOC per liter of product.

(7) Work Practice Requirements.

(i) Application methods. Only one of the following application methods shall be used for the application of adhesives, sealants, adhesive primers or sealant primers: electrostatic spray, High volume-low pressure (HVLP) spray, flow coat, roll coat, or hand application, (including non-spray application methods similar to hand or mechanically powered caulking gun, brush, or direct hand application), dip coating (including electrodeposition), airless spray, air-assisted airless spray, or other application methods capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spraying.

(ii) Any person using adhesives, sealants, adhesive primers, sealant primers, surface preparation or clean-up solvents subject to this section shall store or dispose of all such materials and absorbent materials, such as cloth or paper, which are moistened with adhesives, sealants, primers or solvents subject to this section, in non-absorbent containers that shall be closed except when placing materials in or removing materials from the container.

(iii) Ensure that mixing and storage containers used for VOC-containing adhesives, adhesives primers, and process-related waste materials are kept closed at all times except when depositing or removing these materials.

(iv) Minimize spills of VOC-containing adhesives, adhesive primers, and process-related waste materials.

(v) Convey VOC-containing adhesives, adhesive primers, and process-related waste materials from one location to another in closed containers or pipes.

(vi) Minimize VOC emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and that all spent solvent is captured in closed containers.

(vii) Removal of an adhesive, sealant, adhesive primer or sealant primer from the parts of spray application equipment shall be performed as follows:

(A) In an enclosed cleaning system, or its equivalent as approved by the Air Pollution Control Officer and EPA,

(B) Using a solvent with a VOC content less than or equal to 70 grams of VOC per liter of material, or

(C) Parts containing dried adhesive may be soaked in a solvent if the composite vapor pressure of the solvent, excluding water and exempt compounds, is less than or equal to 9.5 mm Hg at 20 degrees Celsius and the parts and solvent are in a closed container that remains closed except when adding parts to or removing parts from the container.

(d) Control devices.

(1) As an alternative to compliance with the emission limits in subsection (c) of this section, an owner or operator may comply with this section by:

(i) Installing and operating a capture system and control device for control of VOC emissions from the use or application of

all adhesives, sealants, adhesive primers and sealant primers; and

(ii) Demonstrating that the overall emission reduction efficiency achieved for such emissions is greater than 90%. The achieved overall emission reduction efficiency shall be determined in accordance with procedures and test methods specified by the Air Pollution Control Officer and EPA.

(2) An owner or operator subject to this section shall ensure that:

(i) A capture system and control device, if used, are operated at all times, and the owner or operator demonstrates compliance with this section in accordance with the coating analysis and capture system and control device efficiency test methods specified by the Air Pollution Control Officer and EPA; and

(ii) The control device is equipped with the monitoring equipment required by the Air Pollution Control Officer, and such equipment is installed, calibrated, operated and maintained according to the vendor's specifications at all times the control device is in use. The monitoring equipment shall monitor the following parameters:

(A) Combustion chamber temperature of each thermal incinerator or afterburner;

(B) Temperature before the catalyst bed and temperature rise across each catalytic incinerator bed; and

(C) The VOC concentration of the inlet and outlet from each carbon adsorption bed.

(e) Recordkeeping and Reporting.

(1) Each person subject to this section shall maintain records demonstrating compliance with this section, including, but not limited to, the following information:

(i) A list of each adhesive, sealant, adhesive primer, sealant primer cleanup solvent and surface preparation solvent in use and in storage;

(ii) A data sheet or material list which provides the material name, manufacturer identification, and material application;

(iii) Catalysts, reducers or other components used and the mix ratio;

(iv) The VOC content of each product as supplied;

(v) The final VOC content or vapor pressure, as applied; and

(vi) The monthly volume of each adhesive, sealant, adhesive primer, sealant primer, cleanup or surface preparation solvent used.

(2) Any person who complies with this section through the use of add-on air pollution control equipment shall record the key operating parameters for the control equipment, including but not limited to, the following information:

(i) The volume used per day of each adhesive, sealant, adhesive primer, sealant primer or solvent that is subject to a VOC content limit in Table 1 and that exceeds such a limit;

(ii) On a daily basis, the combustion temperature, inlet and exhaust gas temperatures and control device efficiency, as appropriate, pursuant to sub-section (d)(ii) of this section;

(iii) Daily hours of operation; and

(iv) All maintenance performed including the date and type of maintenance.

(3) For adhesives, sealants, adhesive primers and sealant primers subject to the laboratory testing exemption pursuant to this section, the person conducting the testing shall make and maintain records of all such materials used, including, but not limited to, the product name, the product category of the material or type of application and the VOC content of each material.

(4) All records made to determine compliance with this section shall be maintained for five (5) years from the date such record is created.

5-253.9 ~~Reserved.~~Offset Lithographic and Letterpress Printing

(a) Applicability.

(1) This section applies to any *offset lithographic printing operation* and any *letterpress printing operation*, except any such printing operations within a *stationary source* whose *actual emissions* without *control devices* from all printing operations within the source are less than 3 tons of *volatile organic compounds* per 12-month rolling period. Once a source is subject to this section, it shall remain so, even if its *emissions* levels later fall below the applicability threshold.

(2) Existing sources subject to this standard must comply within 24 months of the promulgation of this section.

(b) Definitions. For the purpose of this section, the following definitions apply, in addition to those of Section 5-101 of this chapter.

"Cleaning materials" means all materials used for cleaning a press, press parts, or to remove dried ink from areas around a press including blanket washing, roller washing, plate cleaners, metering roller cleaners,

impression cylinder cleaners, rubber rejuvenators, and other cleaners. Cleaning materials do not include materials used on electronic components of a press, pre-press cleaning operations (e.g., platemaking), post-press cleaning operations (e.g., binding), cleaning supplies (e.g., detergents) used to clean the floor (other than dried ink) in the area around a press, or cleaning performed in parts washers or cold cleaners.

"Cold-set" means a press that uses inks that do not require heat to set or dry and instead rely primarily on absorption into the media. Cold-set inks tend to have lower *volatile organic compound* contents and higher vegetable oil content than heat-set inks and permanently retain most of the *volatile organic compounds* in the substrate.

"Fountain solution" means a water-based material that is applied to the non-image areas of the lithographic plate that were rendered water receptive thus making these areas unreceptive to ink. Fountain solutions have historically contained significant amounts of isopropyl alcohol which serves as a wetting agent or "dampening aid" to enhance the spreadability of the fountain solution across the plate.

"Heat-set" means a press that uses inks that require heat to set and dry the inks, usually in a printing press dryer. Heat-set inks tend to have higher *volatile organic compound* contents and lower vegetable oil content than cold-set inks and much of these compounds are volatilized off in the press dryer.

"Letterpress printing operation" means a printing process in which the image area is raised relative to the non-image area and the paste ink is transferred to the substrate directly from the image surface.

"Offset lithographic printing operation" means a planographic printing process in which the printing image areas and non-image areas are on the same plane on the same thin lithographic plate where the image area is rendered oil (ink) receptive and the non-image area is rendered water receptive. The ink is transferred from an ink roller to the printing image areas of the lithographic plate, where it is confined to the plate areas that are rendered oil (ink) receptive and repelled from the plate areas that are rendered water receptive that instead pick up the water-based *fountain solution*. The ink is then transferred to a rubber-covered, intermediate "offset" cylinder before being transferred to the substrate being printed.

"Sheet-fed press" means a press where individual sheets of paper or other substrate are fed to the press.

"Web-fed press" means a press where continuous rolls of substrate material are fed to the press and rewound or cut to size after printing.

(c) Standards.

(1) Heat-set printing press dryers. Each press dryer shall be equipped with an effective emission capture and control system that shall comply with at least one of the following limitations: (1) the system shall achieve a minimum 99.0 percent overall destruction

efficiency of *volatile organic compounds* from the press dryer, or (2) the system shall achieve an outlet *volatile organic compound* concentration not to exceed 5 ppmvd as hexane. Notwithstanding the above, presses used exclusively for printing of books and presses with a maximum web width of 22 inches or less shall not be subject to the above limitations.

(2) Fountain solutions.

(i) Heat-set printing operation fountain solutions. Each fountain solution shall comply with at least one of the following limitations: (1) the *volatile organic compound* content of the *fountain solution* as applied shall not exceed 1.6 percent by weight, (2) the *volatile organic compound* content of the *fountain solution* as applied shall not exceed 3.0 percent by weight if the fountain solution is refrigerated to 60 degrees F or below, or (3) the fountain solution as applied shall contain no alcohol and shall not exceed 5 percent by weight alcohol substitutes.

(ii) Cold-set web-fed press printing operations. Each fountain solution as applied shall contain no alcohol and shall not exceed 5 percent by weight alcohol substitutes.

(iii) Cold-set sheet-fed press printing operations. Each fountain solution shall comply with at least one of the following limitations: (1) the *volatile organic compound* content of the *fountain solution* as applied shall not exceed 5.0 percent by weight, (2) the *volatile organic compound* content of the *fountain solution* as applied shall not exceed 8.5 percent by weight if the fountain solution is refrigerated to 60 degrees F or below, or (3) the fountain solution as applied shall contain no alcohol and shall not exceed 5 percent by weight alcohol substitutes. Notwithstanding the above, sheet-fed presses with a maximum sheet size of 11 inches by 17 inches or smaller or any sheet-fed presses with a total fountain solution reservoir of 1 gallon or less shall not be subject to the above limitations.

(3) Cleaning materials. Each *cleaning material* used shall comply with at least one of the following limitations: (1) the composite vapor pressure of the cleaning material as applied shall not exceed 10 mmHG at 20 degrees C, or (2) the *volatile organic compound* content of the *cleaning material* as applied shall not exceed 70 percent by weight. All cleaning materials and shop rags contaminated with cleaning materials shall be kept in normally closed containers. Notwithstanding the above, a facility may use up to 110 gallons per calendar year of cleaning materials for all printing operations combined at the *stationary source* that do not meet either of the content limitations above.

(d) Recordkeeping and Reporting

(1) The owner or operator of any *offset lithographic printing operation* or any *letterpress printing operation* shall maintain records sufficient to determine the *volatile organic compound* emissions

from all printing operations at the *stationary source* per 12-month rolling period, including the following:

(i) The quantity of each ink, *fountain solution* and *cleaning material* used each day.
(ii) The *volatile organic compound* content of each ink, *fountain solution* and cleaning material used each day and the *Material Safety Data Sheet* for each.

(2) All such records shall be retained for a minimum of 5 years and shall be made available to the *Secretary* upon request.

5-253.10 Paper Coating

(a) Applicability. This subsection applies to all *paper coating units*, except that any *paper coating unit* shall be exempt from this subsection that is within a paper *coating* source that has *actual emissions* without *control devices* from all *paper coating units* within the source of less than 15 lbs of *volatile organic compounds* per day. Once a source becomes subject to this subsection, it shall remain so even if *emission* levels subsequently fall below the applicability threshold.

(b) Definitions. For the purpose of this subsection, the following definitions apply, in addition to those of Section 5-101 of this chapter.

"Knife coating" means the application of a *coating* material to a *substrate* beneath a knife that spreads the *coating* evenly the full width of the *substrate*.

"Paper coating line" means a *web coating line* where *coating* is applied to paper. Products produced on a *paper coating line* include, but are not limited to, adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper and pressure sensitive tapes. *Paper coating lines* include, but are not limited to, application by impregnation or saturation or by the use of roll, knife or *rotogravure coating*. Printing presses are not considered *paper coating lines*.

"Paper coating unit" means a *coating* application station and its associated flashoff area, drying area and/or *oven*, where *coating* is applied and dried or cured on a *paper coating line*. A *paper coating line* may include more than one *paper coating unit.*

"Roll coating" means the application of a *coating* material to a moving *substrate* by means of hard rubber, elastomeric or metal rolls.

"Rotogravure coating" means the application of a *coating* material to a *substrate* by means of a *roll coating* technique in which the pattern to be applied is recessed relative to the non-image area, and the *coating* material is picked up in these recessed areas and is transferred to the *substrate*.

"Substrate" means the surface onto which a *coating* is applied or into which a *coating* is impregnated.

"Web coating line" means all of the *coating* applicators, drying areas or *ovens* located between an unwind station and a rewind station, that are used to apply *coating* onto a continuous strip of *substrate* (the web). A *web coating line* need not have a drying *oven*.

(c) Standards.

(1) An owner or operator of a *paper coating unit* subject to this subsection shall not cause, allow or permit the application of any *coating* on that unit with a *VOC* content in excess of 2.9 pounds per gallon of *coating*, (excluding water and exempt compounds), as applied; or

(2) An owner or operator of a *paper coating unit* subject to this subsection shall not apply, during any day, *coatings* on that unit whose daily-weighted average of *VOC* content, calculated in accordance with methods specified by the *Air Pollution Control Officer*, exceeds the *emission* limit in paragraph (c)(1) of this subsection.

(d) Control devices.

(1) As an alternative to compliance with the *emission* limits in paragraph (c) of this subsection, an owner or operator of a *paper coating unit* may comply with this subsection by:

(i) Installing and operating a *capture system* and *control device* on that unit; and

(ii) Demonstrating that the *overall emission reduction efficiency* achieved for that unit is greater than or equal to the required *overall emission reduction efficiency*. The achieved and the required *overall emission reduction efficiencies* shall be determined in accordance with procedures and test methods specified by the *Air Pollution Control Officer.*

(2) An owner or operator of a *paper coating unit* subject to this subsection shall ensure that:

(i) A *capture system* and *control device*, if used, are operated at all times that the *coating unit* is in operation, and the owner or operator demonstrates compliance with this subsection in accordance with the *coating* analysis and *capture system* and *control device* efficiency test methods specified by the *Air Pollution Control Officer;* and

(ii) The *control device* is equipped with the monitoring equipment required by the *Air Pollution Control Officer*, and such equipment is installed, calibrated, operated and maintained according to the vendor's specifications at all times the *control device* is in use. The monitoring equipment shall monitor the following parameters:

(A) Combustion chamber temperature of each thermal *incinerator* or afterburner;

(B) Temperature rise immediately before the catalyst bed and across each catalytic *incinerator* bed; and

(C) The *VOC* concentration of the outlet from each carbon adsorption bed.

(e) Record keeping and reporting.

(1) The owner or operator of a *coating unit* complying with paragraph (c) of this subsection by means of the use of complying *coatings* shall collect and record all of the following information each day for each *coating unit* and maintain the information at the source for a period of 5 years:

(i) The name and identification number of each *coating*, as applied, on each *coating unit*; and

(ii) The mass of *VOC* per volume of each *coating* (excluding water and exempt compounds) as applied used each day on each *coating unit.*

(2) The owner or operator of any *coating unit* complying with this subsection by the use of *control devices* shall perform such compliance testing, keep such records and furnish such reports as required by the *Air Pollution Control Officer* to demonstrate continuing compliance with this subsection.

5-253.11 Perchloroethylene Dry Cleaning

(a) Applicability.

(1) This section shall apply to the owner or operator of a *dry cleaning facility* that uses *perchloroethylene*.

(2) Dry cleaning facilities that meet the definition of “major” source are not required to comply with this section, but must comply with the “National *Perchloroethylene* Air Emission Standards for Dry Cleaning Facilities,” 40 CFR Part 63, Subpart M.

(3) Dry Cleaning facilities subject to this section shall not be subject to the requirements applicable to Title V subject sources under Subchapter X of these regulations.

(b) Definitions. For the purpose of this subsection, the following definitions apply, in addition to those of Section 5-101 of this chapter.

“Ancillary Equipment” means the equipment used with a *dry cleaning machine* in a *dry cleaning system* including but not limited to, emissions control devices, pumps, filters, muck cookers, *stills*, solvent tanks, solvent containers, *water separators*, *exhaust dampers*, *diverter valves*, interconnecting piping, hoses and ducts.

“*Area Source*” means any *dry cleaning facility* that includes only *dry-to-dry machines* and has a total yearly *perchloroethylene* consumption equal to or less than 2100 gallons (8000 liters) as calculated on a twelve consecutive month basis in accordance with subsection (f)(1)(i) of this section.

“*Article*” means clothing, garments, textiles, fabrics, leather goods, and the like, that are dry cleaned.
"*Carbon Adsorber*" means a bed of activated carbon through which an air-*perchloroethylene* gas-vapor stream is routed and which adsorbs the *perchloroethylene*.

“*Construction*” means the fabrication (onsite), erection, or installation of a dry cleaning system subject to this subsection.

“*Diverter valve*” means a flow control device that prevents room air from passing through a *refrigerated condenser* when the door of the *dry cleaning machine* is open.

“*Dry cleaning*” means the process of cleaning articles using perchloroethylene.

“*Dry cleaning facility*” means an establishment with one or more *dry cleaning systems*.

“*Dry cleaning system*” means a *dry-to-dry machine* and its *ancillary equipment* or a *transfer machine* and its *ancillary equipment*.

“*Dry-to-dry machine*” means a one-machine *dry cleaning* operation in which washing and drying are performed in the same machine.

“*Dryer*” means a machine used to remove *perchloroethylene* from *articles* by tumbling them in a heated air stream.

“*Filter*” means a porous device through which *perchloroethylene* is passed to remove contaminants in suspension. Examples include but are not limited to lint filters, button trap, cartridge filter, tubular filter, regenerative filter, prefilter, polishing filter and spin disk filter.

“*Halogenated hydrocarbon detector*” means a portable device capable of detecting vapor concentrations of *perchloroethylene* of 25 parts per million by volume or greater by emitting an audible or visual signal that varies as the concentration changes.

“*Major source*” means any *dry cleaning facility* that includes only *dry-to-dry machine(s)* and has a total yearly *perchloroethylene* consumption greater than 2,100 gallons (8,000 liters) as calculated on a twelve consecutive month basis in accordance with subsection (f)(1)(i).

“Muck cooker” means a device for heating *perchloroethylene*-laden waste material to volatilize and recover *perchloroethylene*.

“New” means commenced construction or reconstruction after the adopted date of this rule.

"Perceptible Leaks" means vapor or liquid leaks of *perchloroethylene* that are obvious from:

(1) The *odor* of the *perchloroethylene*;

(2) The observation of gas flow by feel, by application of bubble solution or by use of any hand held *halogenated carbon detector*; or

(3) Visual observation, such as pools or droplets of liquid; or

(4) A *perchloroethylene* vapor concentration exceeding 25 parts per million by volume (50 parts per million by volume as methane) as indicated by a halogenated hydrocarbon detector or *perchloroethylene gas analyzer*.

"Perchloroethylene" is a colorless volatile chlorinated hydrocarbon. Synonyms for *perchloroethylene* include: "perc", tetrachloroethylene, tetrachloroethene, perchlor, and PCE. The chemical formula, for *perchloroethylene* is C_2Cl_4.

“Perchloroethylene gas analyzer” means a flame ionization detector, photoionization detector, or infrared analyzer capable of detecting vapor concentration of *perchloroethylene* of 25 parts per million or greater, by volume.

“Reclaimer” means a machine used to remove *perchloroethylene* from *articles* by tumbling them in a heated air stream.

“Reconstruction” means replacement of any components of a *dry cleaning system* to such an extent that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source.

“Refrigerated condenser” means a vapor recovery system into which an air-*perchloroethylene* gas-vapor stream is routed and the *perchloroethylene* is condensed by cooling the gas-vapor stream.

“Residence” means any dwelling or housing in which people reside excluding short-term housing that is occupied by the same person for a period of less than 180 days (such as a hotel room).

"Still" means a device used to evaporate and recover *perchloroethylene* from contaminated solvent removed from the cleaned *articles*.

“Transfer machine” means a multiple-machine *dry cleaning* operation in which washing and drying are performed in different machines.

“Temperature sensor” means a thermometer or thermocouple used to measure temperature.

“Water separator” means any device used to recover *perchloroethylene* from a water-*perchloroethylene* mixture.

“Washer” means a machine used to clean articles by immersing them in *perchloroethylene*.

“Year” or *“Yearly”* means any consecutive 12-month period of time.

(c) Standards.

(1) A *dry cleaning machine* shall be designed to not require venting to the outside atmosphere.

(2) A *dry cleaning machine* shall be equipped with one of the following *perchloroethylene* emission control devices:

(i) A *refrigerated condenser* provided that:

(A) The *refrigerated condenser* is closed to the atmosphere except when articles are being loaded or unloaded;

(B) The temperature at the *refrigerated condenser* outlet is less than or equal to 40° F (4.4°C) before the end of the cool-down or drying cycle;

(C) A *temperature sensor* is installed on the outlet side of all *refrigerated condensers* to monitor the temperature. The *temperature sensor* shall be installed and used according to the manufacturer’s instructions and shall be designed to measure a temperature of 40°F (4.4°C) to an accuracy of ±2°F (±1.1°C); and

(D) Air drawn into the *dry cleaning machine* when the door of the machine is open doesn’t pass through the *refrigerated condenser*.

(ii) Any other equally effective *control device* as approved by the *Air Pollution Control Officer* and the EPA pursuant to 40 CFR §63.325.

(3) The owner or operator of any *dry cleaning system* shall eliminate any emission of *perchloroethylene* during the transfer of *articles* between the washer and the *dryer(s)* or *reclaimer(s)*.

(4) The owner or operator of a *dry cleaning system* installed after December 21, 2005 shall pass the air-*perchloroethylene* gas-vapor stream from inside the *dry cleaning machine* drum through a non-vented *carbon adsorber* or equivalent control device immediately before the door of the *dry cleaning machine* is opened. The *carbon adsorber* must be maintained and desorbed in accordance with the manufacturer’s instructions. An equivalent control device must be approved by the Air Pollution Control Officer and the EPA pursuant to 40 CFR §63.325.

(5) The owner or operator of a *dry cleaning facility* shall eliminate any emission of *perchloroethylene* from any *dry cleaning system* that is installed (including relocation of a used machine) after December 21, 2005, and that is located in a building with a *residence*.

(6) After December 21, 2020, the owner or operator of a *dry cleaning facility* shall eliminate any emission of *perchloroethylene* from any *dry cleaning system* that is located in a building with a *residence*.

(d) Operations and Maintenance.

All *dry cleaning facilities* shall comply with the following requirements:

(1) Drain all filtration cartridges in the *filter* housing for at least 24 hours prior to removal. When any filtration cartridge is removed from the *filter* housing, it shall be placed in a sealed container which does not allow the solvent in the filter to be emitted to the atmosphere, and must be managed and disposed of in accordance with the Vermont Hazardous Waste Management Regulations;

(2) All *perchloroethylene* and waste containing *perchloroethylene* shall be stored in tightly sealed containers which are chemically compatible with and impervious to the solvent, so that no *perchloroethylene* is emitted to the atmosphere. Containers for separator water may be uncovered, as necessary, for the proper operation of the machine and still;

(3) Maintain the *dry cleaning system* to prevent *perceptible leaks* of *perchloroethylene* from gaskets, seals, ducts and related equipment. All *perceptible leaks* of *perchloroethylene* liquid or vapor shall be repaired within 24 hours. If repair parts must be ordered, either a written or a verbal order for those parts shall be initiated within 2 working days of detecting such a leak. Such repair parts shall be installed within 5 working days after receipt;

(4) If the temperature at the *refrigerated condenser* outlet does not meet the value specified in subsection (c)(2)(i)(C), adjustments or repairs shall be made to the *dry cleaning system* or control device to meet that value. If repair parts must be ordered, either a written or verbal order for such parts shall be initiated within 2 working days of detecting such a temperature value. Such repair parts shall be installed within 5 working days after receipt;

(5) The owner or operator of a *dry cleaning facility* shall close the door of each *dry cleaning machine* immediately after transferring *articles* to or from the machine and shall keep the door closed at all other times;

(6) Lint traps shall be cleaned weekly and *perchloroethylene* laden lint placed in a tightly sealed container for management and disposal in accordance with the Vermont Hazardous Waste Management Regulations;

(7) The owner or operator of a *dry cleaning facility* shall operate and maintain the *dry cleaning system* according to the manufacturer's specifications and recommendations; and

(8) All waste material containing *perchloroethylene* shall be managed and disposed of in accordance with the Vermont Hazardous Waste Management Regulations.

(e) Inspections.

(1) The owner or operator of each *perchloroethylene dry cleaner* shall perform weekly inspections of the components listed below for *perceptible leaks* of *perchloroethylene* while the *dry cleaning system* is operating in order to comply with the requirements of paragraph (d)(3). The weekly inspection shall include using a *halogenated hydrocarbon detector* or *perchloroethylene gas analyzer* that is operated according to the manufacturer's instructions. The operator shall place the probe inlet at the surface of each component interface where leakage could occur and move it slowly along the interface periphery:

(i) Hose and pipe connections, fittings, couplings and valves;
(ii) Machine door gaskets and seating;
(iii) *Filter* head gasket and seating;
(iv) Pumps;
(v) Base tanks and storage containers;
(vi) Waste containers;
(vii) *Water separators*;
(viii) *Muck cookers*;
(ix) *Still*;
(x) *Exhaust dampers*;
(xi) *Diverter valves*;
(xii) All *filter* housings; and
(xiii) All other *ancillary equipment*.

(2) The owner or operator of a *dry cleaning facility* shall monitor the temperature at the outlet of the *refrigerated condenser* before the end of the cool-down or drying cycle on a weekly basis to determine compliance with subsection (c)(2)(i)(B).

(f) Record keeping.

(1) The owner or operator of a *dry cleaning facility* shall maintain records of the following for a minimum of five years from the date the record was created:

(i) The amount of *perchloroethylene* purchased each month. At the beginning of each month, the owner or operator shall calculate the total quantity of *perchloroethylene* purchased during the previous twelve consecutive month period;

(ii) The date and results of weekly inspections and records of the dates of repair or purchase orders for repair parts to demonstrate compliance with subsections (d)(3), (d)(4) and (e)(1) of this section; and

(iii) The date and results of weekly monitoring of the temperature at the outlet of the *refrigerated condenser* in accordance with subsection (e)(2) of this section.

(2) The owner or operator of a *dry cleaning facility* shall keep the above records available for inspection during normal business hours and shall provide copies to the *Air Pollution Control Officer* upon request.

(3) The owner or operator of a *dry cleaning facility* shall retain onsite a copy of the design specifications and the operating manuals for each *dry cleaning system* and each emission control device located at the *dry cleaning facility*.

(g) Compliance.

(1) On or after December 15, 2016 or upon commencing operation, whichever is later, a *dry cleaning facility* shall be in compliance with this section.

(2) Within 30 days of commencing operations the owner or operator of a new *dry cleaning facility* shall submit an initial notice of compliance with this section to the *Air Pollution Control Officer* providing the following information and signed by a responsible official who shall certify its accuracy:

(i) The name and address of the owner or operator;

(ii) The physical address of the *dry cleaning* facility;

(iii) A brief description of the type of each dry cleaning machine at the *dry cleaning facility*;

(iv) A description of the type of control device(s) that will be used to achieve compliance with subsections (c)(2) and (c)(4) of this section;

(v) If they are located in a building with a *residence(s)*, even if the *residence* is vacant at the time of this notice;

(vi) If they are the sole occupant of the building;

(vii) Whether they are a *major* or *area source*;

(viii) Whether or not they are in compliance with each applicable requirement of subsections (c), (d) and (e); and

(ix) All information contained in the statement is accurate and true..

5-253.12 Coating of Flat Wood Paneling

(a) Applicability.

(1) This ~~sub~~section applies to any *flat wood paneling coating line*, except any such *coating* line within a~~ny~~ *stationary source* whose *actual emissions* without *control devices* from all flat wood paneling coating lines within the source are less than ~~15 lbs~~3 tons of *volatile organic compounds* per ~~day~~12-month rolling period. Once a source is subject to this ~~sub~~section, it shall remain so, even if its *emissions* levels later fall below the applicability threshold.

(2) Existing sources subject to this standard must comply within 24 months of the promulgation of this ~~rule~~section.

(b) Definitions. For the purpose of this ~~sub~~section, the following definitions apply, in addition to those of Section 5-101 of this chapter.

~~*"Class II hardboard paneling finish"* means that meet the specifications of Voluntary Product Standard PS-59-73 as approved by the American National Standards Institute.~~

"Engineered wood exterior siding" means wood containing products, other than solid wood exterior siding, such as *hardboard*, plywood, particle board and waferboard designed for exterior service.

"Flat wood paneling" means any of the following flat wood products: exterior wood siding, including engineered wood exterior siding and solid wood exterior siding, interior Class I hardboard tileboard, interior Class II hardboard, natural finish hardwood plywood, printed interior panels made of hardwood plywood or thin particleboard.

"Flat wood paneling coating line" means a *coating* line used to apply coatings to flat wood paneling products and includes the application, drying and/or curing of such coatings. ~~used to apply and dry or cure *coatings* applied to one of the following flat wood paneling product categories: *printed interior panels* made of *hardwood plywood* and *thin particle board* (i.e., less than or equal to 0.25 inches in thickness); *natural finish hardwood plywood panels; class II finishes on hardboard panels; tileboard; engineered wood exterior siding; and solid wood exterior siding.*~~

"Hardboard" is a panel manufactured primarily from inter-felted ligno-cellulosic fibers that are consolidated under heat and pressure in a hot press.

"Hardwood plywood" is plywood whose surface layer is a veneer of hardwood.

"Interior Class I hardboard tileboard panel" means a premium interior wall flat wood paneling product made of hardboard that is used in high moisture areas of the home such as kitchens and bathrooms that meets the specification for Class I hardboard as approved by the American National Standards Institute A135.4-2004.

"Interior Class II hardboard panel" means an interior wall flat wood paneling product made of hardboard that meets the specifications for Class II hardboard as approved by the American National Standards Institute A135.5-2004.

"Natural finish hardwood plywood panels" means panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.

"Particle board" means an engineered sheet wood product manufactured from small wood chips, sawmill shavings, or sawdust and a synthetic resin or other suitable binder, which is pressed and extruded.

"Plywood" means an engineered sheet wood product manufactured with one or more thin layers of solid wood veneer in alternating orientation of the grain

"Printed interior panels" means panels whose grain or natural surface is obscured by fillers and base coats upon which a simulated grain or decorative pattern is printed.

"Solid wood exterior siding" means siding, such as clapboard, made from a single layer of sawn natural wood. This siding may have glued joints, such as finger joints, to allow for the removal of defects, such as knots.

"Thin particleboard" is a manufactured board that is 0.25 inches or less in thickness made of individual wood particles that have been coated with a binder and formed into flat sheets by pressure.

"Waferboard" also known as flakeboard, waferboard, or chipboard, means an engineered sheet wood product manufactured from machined wood chips and a synthetic resin or other suitable binder, which is pressed and extruded.

(c) Standards.

(1) Except as provided in 5-253.12(d), n~~N~~o owner or operator of a *flat wood paneling coating line* subject to this ~~sub~~section shall cause or allow the application of coatings with a volatile organic compound content, as applied and ~~on any day~~based on a weighted daily average of all such coatings for each flat wood paneling ~~-~~category~~,~~ ~~*volatile organic compound emissions* from the *coatings*~~ ~~of any one of the following flat wood paneling product categories~~ in excess of the following *emission* limits ~~in paragraphs (c)(1) through (3) of this subsection~~:

~~Flat Wood Paneling Product Category~~		~~lb/1,000 ft²~~
~~(1)~~	~~*Printed interior panels*~~	~~6.0~~
~~(2)~~	~~*Natural finish hardwood plywood panels*~~	~~12.0~~
~~(3)~~	~~*Class II finish on hardboard panels*~~	~~10.0~~
~~Note: The above volatile organic compound emission limits are expressed in units of mass of VOC (lb) per area of surface to which the *coating* is applied (1,000 square feet [ft²]).~~		

Flat Wood Paneling VOC Content Emission Limits

Flat wood paneling category	Grams/liter (lbs/gal)[a]
All flat wood paneling, except solid wood exterior siding covered below.	250 (2.1)
Solid wood exterior siding of cedar, hemlock, mahogany and redwood species at a stationary source whose actual emissions from all flat wood paneling coating lines within the source are less than 50 tons of volatile organic compounds per 12-month rolling period.	325 (2.7)
[a] VOC content values are expressed in units of mass of VOC per volume of coating, excluding water and exempt compounds, as applied.	

(2) Work Practices. The owner or operator of a flat wood paneling coating line subject to this section shall control VOC emissions from VOC containing coatings, thinners, cleaning materials, and coatings and cleaning related waste materials by using the following work practices:

(i) Storing all VOC containing materials including coatings, thinners, cleaning materials, and coating and cleaning related waste materials including used shop towels, in nonabsorbent, non-leaking closed containers;

(ii) Keeping such containers closed at all times except when depositing or removing VOC containing materials;

(iii) Collect all cleaning solvents into normally closed containers after cleaning and as appropriate reclaim for reuse as a cleaning solvent or as a thinner for coatings provided the as applied VOC contents of such coatings comply with the limitations in this section;

(iv) Minimizing and immediately cleaning up spills of VOC containing materials;

(v) Conveying VOC containing materials from one location to another in closed containers or pipes; and

(i) Minimizing emissions of VOC during cleaning of storage, mixing, and conveying equipment.

(d) Control devices.

(1) As an alternative to compliance with the *emission* limits in paragraph (c) of this ~~sub~~section, an owner or operator of a *flat wood paneling coating line* may comply with this ~~sub~~section by:

(i) Installing and operating a *capture system* and *control device* on that line; and

(ii) ~~Demonstrating that the *overall emission reduction efficiency* achieved for that line is greater than or equal to the~~

~~applicable standard under paragraph (c). The achieved and the required *overall emission reduction efficiencies* shall be determined in accordance with procedures and test methods specified by the *Air Pollution Control Officer*.~~ Demonstrating that the *overall emission reduction efficiency* achieved for that line is greater than 90%.

(A) The collection efficiency of the fugitive emissions will be determined pursuant to EPA's "Guidelines For Developing Capture Efficiency Protocols."

(B) The efficiency of the control device and the VOC content measured and calculated as carbon in the control device exhaust gases shall be determined by EPA Test Methods 25 and 25A as described in CFR Title 40 Part 60, or by other methods approved by the Agency and the EPA,

(C) The achieved *overall emission reduction efficiency* shall be determined by multiplying the collection efficiency by the efficiency of the control device.

(2) An owner or operator of a *flat wood paneling coating line* subject to this ~~sub~~section shall ensure that:

(i) A *capture system* and *control device*, if used, are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this ~~sub~~section in accordance with the *coating* analysis and *capture system* and *control device* efficiency test methods specified by the *Air Pollution Control Officer* *and EPA*; and

(ii) The *control device* is equipped with the monitoring equipment required by the *Air Pollution Control Officer*, and such equipment is installed, calibrated, operated and maintained according to the vendor's specifications at all times the *control device* is in use. The monitoring equipment shall monitor the following parameters:

(A) Combustion chamber temperature of each thermal *incinerator* or afterburner;

(B) Temperature ~~rise~~ before the catalyst bed and temperature rise across each catalytic *incinerator* bed; and

(C) The *VOC* concentration of the inlet and outlet from each carbon adsorption bed.

(e) Record keeping and reporting.

(1) The owner or operator of a *coating* line complying with paragraph (c) of this ~~sub~~section by means of the use of complying *coatings* shall collect and record all of the following information each month~~day~~ for each *coating* line and maintain the information at the source for a period of 5 years:

(i) The name and identification number of each *coating*, as applied, used to coat each type of flat wood paneling product; and

(ii) ~~The mass of VOC per area of surface to which the coating is applied to each type of flat wood paneling product (specified in paragraph (c) of this subsection) for each coating used each day in terms of lb VOC/1,000 ft2 and the surface area coated each day of each type of flat wood paneling product.~~ The pounds of *VOC* per gallon of *coating* as applied, (excluding water and exempt compounds) for each *coating* type recorded for 5-253.12(e)(1)(i).

(iii) Calculate the monthly weighted average *VOC* content for all *coatings* applied on each *flat wood paneling coating line* for each type of *flat wood paneling* product.

(2) The owner or operator of any *coating* line complying with this ~~sub~~section by the use of *control devices* shall perform such compliance testing, keep such records and furnish such reports as required by the *Air Pollution Control Officer* to demonstrate continuing compliance with this ~~sub~~section.

5-253.13 Coating of Miscellaneous Metal and Plastic Parts

(a) Applicability.

(1) This ~~sub~~section applies to any *miscellaneous metal and plastic parts* ~~and *products*~~ *coating line*~~*unit*~~, except any such coating line within any stationary source whose actual emissions without control devices from all miscellaneous metal and plastic parts coating lines within the source are less than 3 tons of volatile organic compounds per 12-month rolling period. Once a source is subject to this section, it shall remain so, even if its emissions levels later fall below the applicability threshold. ~~automobile, light-duty and heavy-duty truck *refinishing*;~~

~~(2) The *emission* limits in this subsection do not apply to any *coating unit* within a source whose *actual emissions* without *control devices* from all *miscellaneous metal part and* product *coating units* within the source are less than 5 tons of *VOCs* per year.~~

~~(3) Any source that becomes or is currently subject to this subsection shall remain so even if *emissions* from the source later fall below the applicability threshold.~~

(b) Definitions. For the purpose of this ~~sub~~section, the following definitions apply, in addition to those of Section 5-101 of this chapter.

"Air-dried coating" means a *coating* that is dried by the use of air or forced warm air at temperatures up to 194^{0}F (90^{0}C).

"Clear Coating" a *coating* that either lacks color and opacity or is transparent and uses the surface to which it is applied as a reflective base or undertone color.

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

~~*"Extreme environmental conditions"* means any of the following: the weather all of the time, temperatures frequently above 203ºF (95ºC), detergents, abrasive and scouring agents, solvents, corrosive atmospheres, or similar environmental conditions.~~

~~*"Extreme performance coatings"* means *coatings* intended for exposure to *extreme environmental conditions*.~~

~~*"Miscellaneous metal parts and products coating unit"* means a *coating unit* in which a *coating* is applied to any *miscellaneous metal parts and products*.~~

~~*"Miscellaneous parts and products"* means any metal part or metal product, even if attached to or combined with a nonmetal part or product. *Miscellaneous metal parts and products* include, but are not limited to any metal part or product that is within one of the following Standard Industrial Classification Codes: Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (nonelectric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), and Major Group 39 (miscellaneous manufacturing industries).~~

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

~~*"Refinishing"* means the repainting of previously painted equipment.~~

"Air dried" means cured at a temperature below 90ºC (194 ºF);

"Airless spray application" means a coating spray application system using high fluid pressure, without compressed air, to atomize the coating;

"Air-assisted airless spray application" means a coating spray application system using fluid pressure to atomize the coating and lower pressure air to adjust the shape of the spray pattern;

"Antique aerospace vehicle" means an aircraft or component thereof that was built at least 30 years ago and that is not routinely in commercial or military service in the capacity for which it was designed;

"Appurtenance" means any accessory to a stationary structure, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lampposts; partitions; pipes and piping systems; rain

gutters and downspouts; stairways; fixed ladders; catwalks; fire escapes and window screens;

“As applied” means the composition of coating at the time it is applied to a surface, including any solvent, catalyst or other substance added to the coating but excluding water and exempt compounds;

"Automotive-transportation part" means an interior or exterior component of a motor vehicle or mobile source;

“Baked” means cured at a temperature at or above 90°C (194°F);

“Base coat” means the initial coating applied to a substrate in a process of applying two or more coatings;

“Bearing coating” does not include a material that can also be classified as a dry lubricative material or a solid film lubricant;

“Business machine” means a device that uses electronic or mechanical methods to process information, perform calculations, print or copy information or convert sound into electrical impulses for transmission, such as, typewriters, electronic computing devices, calculating and accounting machines, telephone and telegraph equipment and photocopy machines;

“Camouflage coating” means a coating used, principally by the military, to conceal equipment from detection;

“Capture efficiency” means the ratio of VOC emissions delivered to the control device to the total VOC emissions resulting from the miscellaneous metal and plastic parts coating operation, expressed as a percentage;

“Cleaning solvent” means any VOC-containing liquid, including a liquid impregnated wipe or towelette, used in cleaning;

“Coating” means a material that is deposited in a thin, persistent, uniform layer across the surface of a substrate for aesthetic, protective or functional purposes, including but not limited to, paints, primers, inks and maskants. “Coating” does not include protective oils, acids and bases;

“Coating unit” means a series of one or more coating applicators and any associated drying area or oven wherein a coating is applied, dried or cured. A “coating unit” ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating;

“Control device efficiency” means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

“Dip coating” means a method of applying a coating to a surface by submersion into and removal from a coating bath;

“Electric dissipating coating” means a coating that rapidly dissipates a high-voltage electric charge;

“Electric-insulating and thermal-conducting coating” means a coating that displays an electrical insulation of at least 1000 volts DC per mil on a flat test plate and an average thermal conductivity of at least 0.27 BTU per hour-foot-degree-Fahrenheit;

“Electric-insulating varnish” means a coating applied to electric motors, components of electric motors or power transformers to provide electrical, mechanical and environmental protection or resistance;

“Electrostatic application” means a method of applying coating particles or coating droplets to a grounded surface by electrically charging such particles or droplets;

“Electrostatic preparation coating” means a coating applied to a plastic part solely to provide conductivity for the subsequent application of a primer, a topcoat or other coating through the use of electrostatic application methods;

“EMI/RFI shield coating” means a coating that functions to attenuate electromagnetic interference, radio frequency interference signals or static discharge;

“Etching filler” means a coating that contains less than 23% solids by weight and at least 0.5% acid by weight and is used as a substitute for the application of a pretreatment coating followed by a primer;

“Exempt compound” means a carbon compound excluded from the definition of “volatile organic compound,” as defined in section 5-101 of these Regulations;

“Extreme high-gloss coating” means a coating that, when tested by American Society for Testing Material Test Method D523-08, Standard Test Method for Specular Gloss, shows a reflectance of 75 or more on a 60 degree meter;

“Extreme performance coating” means a coating used on a metal surface where the coated surface is, in its intended use, subject to one of the following conditions:
(A) Chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solution,
(B) Repeated exposure to temperatures in excess of 250°F, or
(C) Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleaners or scouring agents;

“Flow coating” means a non-atomized technique of applying coating to a substrate using a fluid nozzle in a fan pattern with no air supplied to the nozzle;

“Fog coat” means a coating that is applied to a plastic part at a thickness of no more than 0.5 mils of coating solids for the purpose of color matching without masking a molded-in texture;

“General” means a coating category for a coating that does not meet any other category definition provided in this subsection for the specified substrate (i.e., metal part or plastic part);

“General aviation rework facility” means any aerospace facility with the majority of its revenues resulting from the reconstruction, repair, maintenance, repainting, conversion or alteration of general aviation aerospace vehicles or components;

“Gloss reducer” means a coating that is applied to a plastic part at a thickness of no more than 0.5 mils of coating solids solely to reduce the shine of the part;

“Heat-resistant coating” means a coating able to withstand a temperature of at least 400° F during normal use;

“High-performance architectural coating” means a coating used to protect architectural subsections and which meets the requirements of the Architectural Aluminum Manufacturer Association's publication number AAMA 2604-05 (Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels) or 2605-05 (Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels);

“High temperature coating” means a coating certified to withstand a temperature of 1000ºF for 24 hours;

“HVLP spray application” means to apply a coating using a coating application system that uses lower air pressure and higher volume than conventional air atomized spray systems, where the manufacturer has represented that the system is HVLP by affixing a permanent label or through representations on the packaging or other product literature;

“Lacquer” means a clear or pigmented coating formulated with a nitrocellulose or synthetic resin to dry by evaporation without a chemical reaction and that is resoluble in its original solvent;

“Large commercial aircraft” means an aircraft of more than 110,000 pounds, maximum certified take-off weight, manufactured for non-military use;

“Mask coating” means thin film coating applied through a template to coat a small portion of a substrate;

“Medical device” means an instrument, apparatus, implement, machine, gadget, appliance, implant, in vitro reagent or other similar or related article, including any component, part or accessory, which meets one of the following conditions:
(A) Recognized in the official National Formulary or the United States Pharmacopeia or any supplement thereto,
(B) Intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment or prevention of disease in persons or animals, or
(C) Intended to affect the structure or function of the body of a person or animal and which does not achieve its primary intended purposes through

chemical action within or on such body and which is not dependent upon being metabolized for the achievement of its primary intended purposes;

“Metallic coating” means a coating that contains more than five grams of metal particles per liter of coating, as applied;

“Miscellaneous metal and plastic parts” means metal and plastic components of products as well as the products themselves constructed either entirely or partially from metal or plastic including, but not limited to: aerospace vehicles and components, fabricated metal products, molded plastic parts, small and large farm machinery, commercial and industrial machinery and equipment, automotive or transportation equipment, interior or exterior automotive parts, construction equipment, motor vehicle accessories, bicycles and sporting goods, toys, recreational vehicles, extruded aluminum structural components, railroad cars, lawn and garden equipment, business machines, laboratory and medical equipment, electronic equipment, steel drums, metal pipes and small appliances;

"Miscellaneous metal and plastic parts coating line" means a coating line in which a coating is applied to any miscellaneous metal or plastic parts.

“Mold-seal coating” means the initial coating applied to a new mold or a repaired mold to provide a smooth surface that, when coated with a mold release coating, prevents products from sticking to the mold;

“Mold release” means a coating applied to a mold surface to prevent the molded piece from sticking to the mold as it is removed;

“Motor vehicle” means any self-propelled vehicle, including, but not limited to, cars, trucks, buses, golf carts, vans, motorcycles, tanks and armored personnel carriers;

“Motor vehicle bedliner coating” means a multi-component coating applied to a cargo bed after the application of a topcoat to provide additional durability and chip resistance;

“Motor vehicle cavity wax” means a coating applied into the cavities of the vehicle primarily for the purpose of enhancing corrosion protection;

“Motor vehicle deadener” means a coating applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment;

“Motor vehicle gasket/sealing material” means a fluid applied to coat a gasket or replace and perform the same function as a gasket. Automobile and light-duty truck gasket/gasket sealing material includes room temperature vulcanization (RTV) seal material;

“Motor vehicle lubricating wax/compound” means a protective lubricating material applied to vehicle hubs and hinges;

“Motor vehicle sealer” means a high viscosity material generally, but not always, applied in the paint shop after the body has received an electrodeposition primer coating and before the application of subsequent

coatings (e.g., primer-surfacer). The primary purpose of automobile and light-duty truck sealer is to fill body joints completely so that there is no intrusion of water, gases or corrosive materials into the passenger area of the body compartment. Such materials are also referred to as sealant, sealant primer, or caulk;

“Motor vehicle trunk interior coating” means a coating applied to the trunk interior to provide chip protection;

“Motor vehicle underbody coating” means a coating applied to the undercarriage or firewall to prevent corrosion or provide chip protection;

“Multi-colored coating” means a coating packaged in a single container and applied in a single coat which exhibits more than one color when applied;

“Multi-component coating” means a coating requiring the addition of a separate reactive resin, such as a catalyst or hardener, before application to form an acceptable dry film;

“One-component coating” means a coating that is ready for application as packaged for sale, except for the addition of a thinner to reduce the viscosity;

“Optical coating” means a coating with a low reflectance in the infrared and visible wavelength range that is used on or near optical or laser lenses or hardware;

“Overall control efficiency” means the product of the capture efficiency and the control device efficiency;

“Pan-backing coating” means a coating applied to the surface of pots, pans or other cooking implements that are exposed directly to a flame or other heating element;

“Plastic part” means any piece or combination of pieces of which at least one has been formed from one or more resins. Such pieces may be solid, porous, flexible or rigid. “Plastic part” does not include a part made of fiberglass or composite material;

“Powder coating” means any coating applied as a dry, finely divided solid that, when melted and fused, adheres to the substrate as a paint film;

“Prefabricated architectural component coating” means a coating applied to prefabricated metal parts and products that are to be used as architectural appurtenances or structures and that are detached from the structure when coated in a shop environment;

“Primer” means a coating applied to prevent corrosion, provide protection or provide a surface for adhesion of subsequent coatings;

“Related cleaning” means the removal of uncured coatings, coating residue and contaminants from:
(A) Miscellaneous metal and plastic parts prior to the application of coatings,

(B) Miscellaneous metal and plastic parts between coating applications, or
(C) Transfer lines, storage tanks, spray booths and coating application equipment;

“Repair coating” means a coating used to recoat portions of a product that has sustained mechanical damage to the coating following normal painting operations;

“Resin” means any of numerous physically similar polymerized synthetics or chemically modified natural materials including thermoplastic materials such as polyvinyl, polystyrene and polyethylene and thermosetting materials such as polyesters, epoxies and silicones;

“Resist coating” means a coating that is applied to a plastic part before metallic plating to prevent deposits of metal on portions of the plastic part;

“Roll coating” means a coating method using a machine that applies coating to a substrate by continuously transferring coating through a set of oppositely rotating rollers;

“Safety-indicating coating” means a coating that changes in a physical characteristic, such as color, to indicate unsafe conditions;

“Screen print ink” means an ink used in screen printing processes during fabrication of decorative laminates and decals;

“Sealant” means a material used to prevent the intrusion of water, fuel, air or other liquids or solids from certain areas of aerospace vehicles or components;

“Shock-free coating” means a coating applied to electrical components to protect the user from electric shock and that provides for low capacitance and high resistance and resists breaking down under high voltage;

“Silicone-release coating” means any coating that contains silicone resin and is intended to prevent food from sticking to metal surfaces such as baking pans;

“Solar-absorbent coating” means a coating that has as its primary purpose the absorption of solar radiation;

“Solid-film lubricant” means a very thin coating consisting of a binder system containing as its chief pigment material one or more of molybdenum disulfide, graphite, polytetrafluoroethylene or other solids that act as a dry lubricant between faying surfaces;

“Space vehicle” means a man-made device, either manned or unmanned, designed for operation beyond earth's atmosphere, including, but not limited to, integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets and test coupons, including auxiliary equipment associated with test, transport and storage, which through contamination can compromise the space vehicle performance;

“Specialty coating” means a coating that, even though it meets the definition of a primer, topcoat or self priming topcoat, has additional performance criteria beyond those of primers, topcoats and self-priming topcoats for specific applications. Such performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesion or enhanced corrosion protection;

“Stencil coating” means an ink or a coating that is rolled or brushed onto a template or stamp to add identifying letters or numbers to metal parts or products;

“Temporary protective coating” does not include any coating that protects against strong acid or alkaline solutions;

“Texture coat” means a coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating;

“Textured finish” means a rough surface produced by spraying and splattering large drops of coating onto a previously applied coating;

“Topcoat” means the final coating applied in a process of applying two or more coatings;

“Touch-up coating” means a coating used to cover minor coating imperfections appearing after the main coating operation;

"Transfer efficiency" means the portion of coating solids that adheres to the metal or plastic surface during the application process, expressed as a percentage of the total volume of coating solids delivered by the applicator;

“Translucent coating” means a coating which contains binders and pigment and is formulated to form a colored, but not opaque, film;

“Vacuum-metalizing coating” means the undercoat applied to a substrate on which the metal is deposited prior to a vacuum-metalizing process or the overcoat applied directly to the metal film after a vacuum metalizing process;

“Vacuum metalizing process” means the process of evaporating metals inside a vacuum chamber and depositing them on a substrate to achieve a uniform metalized layer;

(c) Standards. Coating limits.

(1) Prior to [effective date] ~~N~~no *owner* or *operator* of a *miscellaneous metal parts and products coating line~~unit~~* subject to this ~~sub~~section shall cause or allow the application of any *coating* with *VOC* content in excess of the following *emission* limits:

Coating Category		lb/gal[a]
(i)	*Clear coating*	4.3
(ii)	Steel *pail* and *drum* interior	4.3
(iii)	*Air-dried coating*	3.5
(iv)	*Extreme performance coating*	3.5
(v)	All other *coatings*	3.0

[a] VOC content values are expressed in units of mass of VOC (lb.) per volume of coatings (gallon), excluding water and exempt compounds, as applied.

(2) No owner or operator of a miscellaneous metal and plastic parts coating line subject to this section shall cause or allow the application of any coating with VOC content in excess of the following emission limits:

Coating of Miscellaneous Metal and Plastic Parts Coating Limits				
Metal Parts Coating VOC Content Limits*				
	Air Dried		Baked	
	G VOC/liter coating	Lbs VOC/gal coating	G VOC/liter coating	Lbs VOC/gal coating
General one-component	340	2.8	280	2.3
General, Multi-Component	340	2.8	280	2.3
Camouflage	420	3.5	420	3.5
Electric-Insulating Varnish	420	3.5	420	3.5
Etching Filler	420	3.5	420	3.5
Extreme High-Gloss	420	3.5	360	3.0
Extreme Performance	420	3.5	360	3.0
Heat-Resistant	420	3.5	360	3.0
High Performance Architectural	740	6.2	740	6.2
High Temperature	420	3.5	420	3.5
Metallic	420	3.5	420	3.5
Military Specification	340	2.8	280	2.3
Mold-Seal	420	3.5	420	3.5
Pan-Backing	420	3.5	420	3.5
Prefabricated Architectural Multi-Component	420	3.5	280	2.3
Prefabricated Architectural One-Component	420	3.5	280	2.3
Pretreatment Coatings	420	3.5	420	3.5
Repair and Touch Up	420	3.5	360	3.0
Silicone-Release	420	3.5	420	3.5
Solar-Absorbent	420	3.5	360	3.0
Vacuum-Metalizing	420	3.5	420	3.5
Drum Coating, New, Exterior	340	2.8	340	2.8
Drum Coating, New Interior	420	3.5	420	3.5
Drum Coating, Reconditioned, Exterior	420	3.5	420	3.5
Drum Coating, Reconditioned, Interior	500	4.2	500	4.2
Plastic Parts Coating VOC Content Limits*				

	G VOC/liter coating	Lbs VOC/gal coating
General one-component	280	2.3
General, Multi-Component	420	3.5
Electric Dissipating Coatings and Shock-Free Coatings	800	6.7
Extreme Performance	420 (2-pack coatings)	3.5 (2 pack coatings)
Metallic	420	3.5
Military Specification	340 (1 Pack) 420 (2 pack)	2.8 (1 pack) 3.5 (2 pack)
Mold-Seal	760	6.3
Multi-Colored Coatings	680	5.7
Optical Coatings	800	6.7
Vacuum-Metalizing	800	6.7
Automotive-Transportation Plastic Parts Coating VOC Content Limits*		
	G VOC/liter coating	Lbs VOC/gal coating
I. High bake coatings -interior and exterior parts		
Flexible Primer	540	4.5
Non-Flexible Primer	420	3.5
Basecoat	520	4.3
Clear Coat	480	4.0
Non-Basecoat/Clear Coat	520	4.3
II. Low Bake/Air Dried Coatings – Interior Parts		
Primers	580	4.8
Basecoat	600	5.0
Clear Coat	540	4.5
Non-Basecoat/Clear Coat	600	5.0
III. Low Bake/Air Dried Coatings – Interior Parts	600	5.0
IV. Touchup and Repair Coatings	620	5.2

Business Machine Plastic Parts Coating VOC Content Limits*		
	G VOC/liter coating	Lbs VOC/gal coating
I. Primers	350	2.9
II. Topcoat	350	2.9
III. Texture Coat	350	2.9
IV. Fog coat	260	2.2
V. Touchup and repair	350	2.9
Pleasure Craft Coating VOC Content Limits*		
	G VOC/liter coating	Lbs VOC/gal coating
Extreme High-Gloss Topcoat	600	5.1
High-Gloss Topcoat	420	3.5
Pretreatment Wash Primer	780	6.5
Finish Primer/Surfacer	420	3.5
High Build Primer Surfacer	340	2.8
Aluminum Substrate Antifoulant Coating	560	4.7
Antifouling Sealer/Tie Coating	420	3.5
Other Substrate Antifoulant Coating	400	3.3
All Other Pleasure Craft Surface Coatings for Metal or Plastic	420	3.5
Motor Vehicle Materials VOC Content Limits*		
	G VOC/liter coating	Lbs VOC/gal coating
Motor vehicle cavity wax	650	5.4
Motor vehicle sealer	650	5.4
Motor vehicle deadener	650	5.4
Motor vehicle gasket/gasket sealing material	200	1.7
Motor vehicle underbody coating	650	5.4
Motor vehicle trunk interior coating	650	5.4
Motor vehicle bedliner	200	1.7
Motor vehicle lubricating wax/compound	700	5.8
*VOC content values are expressed in units of mass of VOC, both as grams (G) and pounds (lbs), per volume of coatings, both liters and gallons (gal), excluding water and exempt compounds, as applied.		

(3) If more than one *emission* limit in ~~paragraph~~ (c)(1) or (c)(2) of this section applies to a specific *coating*, the least stringent *emission* limit shall apply.

(4) The owner or operator may use, in the aggregate, in any twelve consecutive months up to 55 gallons of miscellaneous metal or plastic parts coating or coatings that exceed the coating limitations of (c)(2) of this section provided records are maintained of the non-compliant coating use.

(5) The coating limitations in (c)(2) of this section shall not apply to a coating, or an alternative limitation may apply to a coating, upon request to and approval by the Air Pollution Control Officer and EPA.

~~(3) No *owner or operator* of a *miscellaneous metal parts and products coating unit* that applies multiple *coatings*, all of which are subject to the some numerical *emission* limitation within paragraph (c)(1) above, during the same day (e.g., all *coatings* used on the unit are subject to 3.5 lb/gal), shall apply, during any day, *coatings* on that unit whose daily-weighted average *VOC* content calculated, in accordance with the method specified by the *Air Pollution Control Officer*, exceeds the *coating VOC* content limit corresponding to the category of *coating* used.~~

(6) As an alternative to compliance with the emission limits in (c)(1) and (c)(2) of this section, an owner or operator of a miscellaneous metal or plastic parts coating line may comply with this section by:

(i) Installing and operating a capture system and control device on that line; and

(ii) Demonstrating that the overall emission reduction efficiency achieved for that line is greater than or equal to the required overall emission reduction efficiency. The achieved and the required overall emission reduction efficiencies shall be determined in accordance with procedures and test methods specified by the Air Pollution Control Officer and EPA.

(7) An owner or operator of a miscellaneous metal or plastic parts coating line subject to this section shall ensure that:

(i) A capture system and control device, if used, are operated at all times that the unit is in operation, and the owner or operator demonstrates compliance with his section in accordance with the coating analysis and capture system and control device efficiency test methods specified by the Air Pollution Control Officer and EPA; and

(ii) The control device is equipped with the monitoring equipment required by the Air Pollution Control Officer, and such equipment is installed, calibrated, operated and maintained according to the vendor's specifications at all times the control device is in use.

~~(d) Control devices.~~

~~(1) As an alternative to compliance with the *emission* limits in paragraph (c) of this subsection, an owner or operator of a *miscellaneous metal parts and products coating unit* may comply with this subsection by:~~

~~(i) Installing and operating a *capture system* and *control device* on that unit; and~~

~~(ii) Demonstrating that the *overall emission reduction efficiency* achieved for that unit is greater than or equal to the required *overall emission reduction efficiency*. The achieved and the required *overall emission reduction efficiencies* shall be determined in accordance with procedures and test methods specified by the *Air Pollution Control Officer*.~~

~~(2) An owner or operator of a miscellaneous metal parts and products *coating* unit subject to this subsection shall ensure that:~~

~~(i) A *capture system* and *control device*, if used, are operated at all times that the unit is in operation, and the owner or operator demonstrates compliance with his subsection in accordance with the *coating* analysis and *capture system* and *control device* efficiency test methods specified by the *Air Pollution Control Officer*; and~~

~~(ii) The *control device* is equipped with the monitoring equipment required by the *Air Pollution Control Officer*, and such equipment is installed, calibrated, operated and maintained according to the vendor's specifications at all times the *control device* is in use.~~

(d) Standards. Application methods.

(1) No owner or operator of a miscellaneous metal or plastic parts coating line subject to this section shall cause or allow the application of any coating subject to the emission limits in (c)(2) of this section by any method other than the following application methods:

(i) High volume-low pressure (HVLP) spray;
(ii) Electrostatic spray;
(iii) Flow coating;
(iv) Dip coating;
(v) Roll coating;
(vi) Airless spray application;
(vii) Air-assisted airless spray application;
(viii) Hand application; or
(ix) Any other coating application method achieving a transfer efficiency equivalent to or better than that provided by HVLP spray application if approved by the Air Pollution Control Officer.

(2) The application method requirements of (d)(1) of this section shall not apply to the following:

(i) Touch up or repair coatings;
(ii) EMI/RFI shield coatings; and
(iii) Electrostatic spray;

(e) Standards. Work practice requirements.

(1) The owner or operator of a miscellaneous metal or plastic parts coating line subject to this section shall control VOC emissions from VOC containing coatings, thinners, cleaning materials, and coatings and cleaning related waste materials by using the following work practices:

(vi) Storing all VOC containing materials including coatings, thinners, cleaning materials, and coating and cleaning related waste materials including used shop towels, in nonabsorbent, non-leaking closed containers;
(vii) Keeping such containers closed at all times except when depositing or removing VOC containing materials;
(viii) Collect all cleaning solvents into normally closed containers after cleaning and as appropriate reclaim for reuse as a cleaning solvent or as a thinner for coatings provided the as applied VOC contents of such coatings comply with the limitations in this section;
(ix) Minimizing and immediately cleaning up spills of VOC containing materials;
(x) Conveying VOC containing materials from one location to another in closed containers or pipes; and
(xi) Minimizing emissions of VOC during cleaning of storage, mixing, and conveying equipment.

(~~e~~f) Record keeping and reporting.

(1) Within one year following the effective date of this ~~sub~~section, the owner or operator of a *coating* ~~*unit*~~ line complying with paragraph (c)(2) of this ~~sub~~section by means of the use of complying *coatings* shall collect and record all of the following information each day for each *coating unit* and maintain the information at the source for a period of 5 years:

(i) The name and identification number of each *coating*, as applied, used to coat each type of *miscellaneous metal part or product*; and

(ii) The mass of *VOC* per volume of each *coating* (excluding water and exempt compounds), as applied, used each day, on each *coating unit* and for each type of *miscellaneous metal part or product* (specified in paragraph (c) of this ~~sub~~section).

(2) The *Air Pollution Control Officer* may require the owner or operator of any *coating* ~~*unit*~~*line* complying with this ~~sub~~section by the use of *control devices* to perform such compliance testing, keep such records and furnish such reports as necessary to demonstrate continuing compliance with this ~~sub~~section.

~~(f) Compliance. A *coating unit* subject to this subsection shall comply with the requirements of this subsection on or before November 15, 1994.~~

5-253.l4 Solvent Metal Cleaning

(a) Applicability. This subsection applies to all *solvent metal cleaning* sources with the following exemptions:

(1) Any *open-top vapor degreasing* operation with an open area smaller than 10.8 square feet (ft^2) is exempt from paragraphs (c)(2)(iii)(B) and (c)(2)(iii)(D) of this subsection, and

(2) Any conveyorized degreaser with an *air/solvent interface* smaller than 21.5 ft^2 is exempt from paragraph (c)(3)(ii) of this subsection.

(b) Definitions. For the purposes of this subsection, the following definitions apply, in addition to those of Section 5-101.

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

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

"Conveyorized degreasing" means the process of cleaning and removing soils from a continuous stream of metal parts using either cold or vaporized solvent.

"Freeboard height" means, for a cold cleaner, the distance from the liquid solvent level in the degreaser tank to the lip of the tank. For an *open-top vapor degreaser*, it is the distance from the vapor level in the tank during idling to the lip of the tank. For a vapor-conveyorized degreaser, it is the distance from the vapor level to the bottom of the entrance or exit opening, whichever is lower. For a cold-conveyorized degreaser, it is the distance from the liquid solvent level to the bottom of the entrance or exit opening, whichever is lower.

"Freeboard ratio" means the freeboard height divided by the smaller interior dimension (length, width, or diameter) of the degreaser tank.

"Open-top vapor degreaser" means the process using condensation of hot solvent vapor to clean and remove soils from a batch of metal parts.

"Refrigerated chiller" means a device mounted above both the water-jacket and the primary condenser coils consisting of secondary coils which carries a refrigerant that provides a chilled air blanket above the solvent vapor, thereby reducing *emissions* from the degreaser bath. The chilled air blanket temperature, measured at the centroid of the degreaser at the coldest point, shall be no greater than thirty percent of the solvent's boiling point in degrees Fahrenheit.

"Solvent metal cleaning" means the process of cleaning soils from metal surfaces by *cold cleaning*, *open-top vapor degreasing*, or *conveyorized degreasing.*

(c) Standards.

(1) *Cold cleaning* operations. The owner or operator of a *cold cleaning* operation shall:

(i) Equip the cleaner with a cover that is easily operated with one hand, if:

(A) The solvent *true vapor pressure* is greater than 0.3 pounds per square inch (psi) measured at 100°F by *ASTM* D323-89;

(B) The solvent is agitated: or

(C) The solvent is heated;

(ii) Equip the cleaner with an internal drainage facility so that parts are enclosed under the cover while draining if the solvent *true vapor pressure* is greater than 0.6 psi measured at 100°F by *ASTM* D323-89, except that the drainage facility may be external for applications where an internal type cannot fit into the cleaning system;

(iii) Implement one of the following control measures if the solvent *true vapor pressure* is greater than 0.6 psi measured at 100°F by *ASTM* D323-89, or if the solvent is heated above 120°F:

(A) Freeboard that gives a *freeboard ratio* greater than or equal to 0.7;

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

(C) Another system of equivalent control, equal to that of a *refrigerated chiller* or a carbon adsorber, approved by the *Air Pollution Control Officer* by order or permit.

(iv) Provide a permanent, legible, conspicuous label, summarizing the operating requirements;

(v) Store waste solvent in covered containers;

(vi) Close the cover whenever parts are not being handled in the cleaner;

(vii) Drain the cleaned parts until dripping ceases;

(viii) Supply a solvent spray, if used, that ensures a solid fluid stream at a pressure that does not exceed 10 pounds per square inch gauge; and

(ix) Degrease only materials that are neither porous nor absorbent.

(x) Cease operation of the unit upon the detection of any visible solvent leak until such solvent leak is repaired.

(2) Open top vapor degreasers. Except as provided under paragraph (a)(1) of this subsection, the owner or operator of an open top vapor degreaser shall:

(i) Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;

(ii) Provide the following safety switches:

(A) A vapor level thermostat that shuts off the sump heat if the condenser coolant is either not circulating or too warm or if the vapor level rises above the height of the primary condenser; and

(B) A spray safety switch that shuts off the spray pump if the vapor level drops more than 4 inches below the lowest condensing coil;

(iii) Implement one of the following control measures:

(A) *Freeboard ratio* greater than or equal to 0.75 and a powered cover;

(B) *Refrigerated chiller*;

(C) Enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser);

(D) Carbon adsorption system, with a ventilation rate greater than or equal to 50 cubic feet per minute per square foot ($ft^3/min/ft^2$) of *air/solvent interface* (when cover is open), and exhausting less than 25 parts per million (ppm) of solvent averaged over one complete adsorption cycle, or 24 hours, whichever is less; or

(E) A *control system*, demonstrated to have a control efficiency equivalent to or greater than any of the above and approved by the *Air Pollution Control Officer* by permit or order.

(iv) Keep the cover closed at all times except when processing a workload through the degreaser;

(v) Minimize solvent carryout by:

(A) Racking parts so that solvent drains freely and is trapped;

(B) Moving parts in and out of the degreaser at less than 11 feet per minute;

(C) Holding the parts in the vapor zone for at least 30 seconds or until condensation ceases, whichever is longer;

(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 for at least 15 seconds or until visually dry, whichever is longer;

(vi) Degrease only materials that are neither porous nor absorbent;

(vii) Occupy no more than one-half of the degreaser's open-top area with a workload

(viii) Always spray within the vapor level;

(ix) Repair solvent leaks immediately, or shut down the degreaser;

(x) Store waste solvent only in covered containers;

(xi) Operate the cleaner so that water cannot be visually detected in solvent exiting the water separator;

(xii) Use no ventilation fans near the degreaser opening;

(xiii) When the cover is open, not expose the open-top vapor degreaser to drafts greater than 131 ft/min, as measured between 3 and 6 feet upwind and at the same elevation as the tank lip;

(xiv) If a lip exhaust is used on the open top vapor degreaser, not use a ventilation rate that exceeds 65 $ft^3/min/ft^2$ of degreaser open area, unless a higher rate is needed to meet VOSHA requirements;

(xv) Provide a permanent, conspicuous label, summarizing the operating procedures of paragraphs (c)(2)(iv) through (c)(2)(xiv) of this subsection;

(xvi) Not load the degreasing unit to the point where the vapor level would drop more than 4 inches when the workload is removed from the vapor zone; and

(xvii) Locate the top cover below the lip exhaust if the open top degreaser is equipped with a lip.

(3) *Conveyorized degreasing*. Except as provided in paragraph (a)(2) of this subsection, the owner or operator of a conveyorized degreaser shall:

(i) Not use work place fans near the degreaser opening, and ensure that exhaust ventilation does not exceed 65 $ft^3/min/ft^2$ of degreaser opening, unless a higher rate is necessary to meet VOSHA requirements;

(ii) Install one of the following *control devices*:

(A) Refrigerated chiller;

(B) Carbon adsorption system, with a ventilation rate greater than or equal to 50 $ft^3/min/ft^2$ of air/solvent interface (when downtime covers are open), and exhausting less than 25 ppm of solvent by volume averaged per one complete adsorption cycle, or 24 hours, whichever is less; or

(C) A control system, demonstrated to have a control efficiency equivalent to or greater than any of the above and approved by the Air Pollution Control Officer by permit or order.

(iii) Equip the cleaner with equipment, such as a drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor;

(iv) Provide the following safety switches:

(A) A condenser flow switch and vapor level control thermostat that shut off the sump heat if the condenser coolant is either not circulating or if the vapor level rises above the height of the primary coil;

(B) A spray safety switch that shuts off the spray pump or the conveyor if the vapor level drops more than 4 inches below the lowest condensing soil.

(v) Minimize openings during operation so that entrances and exits silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than 4 in. or less than 10 percent of the width of the opening;

(vi) Provide downtime covers for closing off the entrance and exit during shutdown hours;

(vii) Minimize carryout *emissions* by:

(A) Racking parts so that solvent drains freely from parts and is not trapped; and

(B) Maintaining the vertical conveyor speed at less than 11 ft/min;

(viii) Repair solvent leaks immediately, or shut down the degreaser;

(ix) Store waste solvent only in covered containers;

(x) Operate the cleaner so that water cannot be visually detected in solvent exiting the water separator;

(xi) Place downtime covers over entrances and exits of the conveyorized degreaser at all times when the conveyors and exhausts are not being operated; and

(xii) Degrease only materials that are neither porous nor absorbent.

(d) Testing and record keeping. The *Air Pollution Control Officer* may require the owner or operator of any source subject to this subsection to perform such testing, keep such records and furnish such reports as necessary to demonstrate continuing compliance with this subsection.

(e) Compliance. A source which is subject to the requirements of this subsection shall achieve compliance on or before November 15, 1994.

5-253.15 Cutback and Emulsified Asphalt

(a) Applicability. This subsection applies to the manufacture, mixing, storage, and use of *cutback asphalts* and *emulsified asphalts*. No exemptions are allowable based on the size or throughput of an operation.

(b) Definitions. For the purposes of this subsection, the following definitions apply, in addition to those of Section 5-101 of this chapter.

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

"*Cutback Asphalt*" means *asphalt* that has been liquefied by blending with organic compounds (diluents). Upon exposure to atmospheric conditions, the diluents evaporate, leaving the *asphalt* to perform its function.

"*Emulsified Asphalt*" means an emulsion of *asphalt* and water that contains a small amount of an emulsifying agent; it is a heterogeneous system containing two normally immiscible phases (*asphalt* and water) in which the water forms the continuous phase of the emulsion, and minute globules of *asphalt* form the discontinuous phase.

"*Medium Curing Cutback Asphalt*" means material which meets the specifications of the *ASTM* Designation D2027.

"*Penetrating Prime Coat*" means an application of low-viscosity liquid *asphalt* to an absorbent surface. It is used to prepare an untreated base for an asphalt surface. The prime coat penetrates the base, plugs voids, and hardens and helps bind the top to the overlying asphalt course. The penetrating prime coat also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.

(c) Standards.

(1) No *person* shall cause, allow, or permit the manufacture, mixing, storage, or use of *cutback asphalts* or *emulsified asphalts* which contain 5% by weight or greater *volatile organic compounds*, as determined in accordance with test methods and procedures specified by the *Air Pollution Control Officer*, with the following exceptions:

(i) A *medium curing cutback asphalt* may be used for the manufacture of and long-term stockpile storage of patching mixes used in pavement maintenance.

(ii) A *medium curing cutback asphalt* may be used as a *penetrating prime coat* for aggregate bases prior to paving.

5-253.16 Wood Furniture Manufacturing

(a) Applicability.

(1) This subsection applies to all *stationary source*s that are engaged, either in part or in whole, in the manufacture of *wood furniture* or *wood furniture component*s, except as provided in paragraphs (a) (2) and (3) below.

(2) A *stationary source* engaged, either in part or in whole, in the manufacture of *wood furniture* or *wood furniture component*s that has allowable *VOC* emissions of less than 25 tons per year and that is not located at a major source of hazardous air pollutants is exempt from all provisions of this subsection, except for paragraph (c)(4) regarding the control of individual hazardous air contaminants.

(3) *Stationary source*s that are primarily engaged in the manufacture of products other than *wood furniture* or *wood furniture component*s and that use no more than 100 gallons per month of *finishing material* and *contact adhesive*s combined in the manufacture of *wood furniture* or *wood furniture component*s are not subject to this subsection, except that each such source shall maintain records of monthly *finishing material* and *adhesive* usage.

(b) Definitions. For the purpose of this subsection, the following definitions apply, in addition to those of Section 5-101 of this chapter:

"*Adhesive*" means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means. *Adhesive*s shall not be considered *coating*s or *finishing material*s. Products used on humans and animals, *adhesive* tape, contact paper, or any other product with an *adhesive* incorporated onto or in an inert *substrate* shall not be considered *adhesive*s.

"*Aerosol Adhesive*" means an *adhesive* that is dispensed from a pressurized container as a suspension of fine solid or liquid particles in gas.

"*As Applied*" means the *VOC*, *HAP* and *solids* content of the *coating* or *contact adhesive* that is actually used for *coating* or gluing the *substrate*. It includes the contribution of materials used for in-house dilution of the *coating* or *contact adhesive*.

"*Basecoat*" means a coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other opaque *finishing materials*, and is usually *topcoat*ed for protection.

"Certified Product Data Sheet (CPDS)" means documentation furnished by *coating* or *adhesive* suppliers or an outside laboratory that provides the *HAP* content of a *finishing material*, *contact adhesive*, or *solvent*, by percent weight, measured using EPA Method 311, or an equivalent or alternative method approved by the *Air Pollution Control Officer* and *EPA*; the *VOC* content and *solids* content of a *finishing material*, strippable booth *coating*, *solvent* or *contact adhesive*, by percent weight, measured using EPA Method 24, or an alternative or equivalent method approved by the *Air Pollution Control Officer*; and the density, measured by EPA Method 24 or an alternative or equivalent method approved by the *Air Pollution Control Officer*. Therefore, the reportable *VOC* and *HAP* contents should represent the maximum aggregate emissions potential of the *finishing material*, strippable booth *coating*, *adhesive*, or *solvent* in concentrations greater than or equal to 1.0 percent by weight or 0.1 percent for *VOC*s or *HAP*s that are carcinogens, as defined by the Occupational Safety and Health Administration Hazard Communication Standard (29 C.F.R. 1910), as formulated.

"*Cleaning Operations"* means operations in which *organic solvent* is used to remove *coating* materials or *adhesive*s from equipment used in *wood furniture manufacturing operations*.

"*Coating*" means a protective, decorative, or functional film applied in a thin layer to a surface. Such materials include, but are not limited to, paints, *topcoat*s, varnishes, *sealer*s, *stain*s, *washcoat*s, *basecoat*s, *enamel*s, inks, and temporary protective *coating*s.

"*Coating Application Station*" means the part of a *coating operation* where the *coating* is applied, e.g., a spray booth.

"*Coating Operation*" means those activities in which a *coating* is applied to a *substrate* and is subsequently air-dried, cured in an oven, or cured by radiation.

"*Coating Solids (or solids)"* means the part of the *coating* which remains after the *coating* is dried or cured; *solids* content is determined using data from the EPA Method 24, or an equivalent or alternative method approved by the *Air Pollution Control Officer* and *EPA*.

"*Contact Adhesive"* means an *adhesive* that is applied to two *substrate*s, dried, and mated under only enough pressure to result in good contact. The bond is immediate and sufficiently strong to hold pieces together without further clamping, pressure, or airing.

"*Continuous Coater*" means a finishing system that continuously applies *finishing material*s onto furniture parts moving along a conveyor. *Finishing material*s that are not transferred to the part are recycled to a reservoir. Several types of application methods can be used with a *continuous coater* including spraying, curtain *coating*, roll *coating*, dip *coating*, and flow *coating*.

"*Conventional Air Spray*" means a spray *coating* method in which the *coating* is atomized by mixing it with compressed air and applied at an air pressure greater than 10 pounds per square inch (gauge) at the point of atomization. Airless and air assisted airless spray technologies are not *conventional air spray* because the *coating* is not atomized by mixing it with compressed air. Electrostatic spray technology is also not considered *conventional air spray* because an electrostatic charge is employed to attract the *coating* to the workpiece.

"*Enamel*" means a coat of colored material, usually opaque, that is applied as a protective *topcoat* over a *basecoat*, primer, or previously applied *enamel* coats. In some cases, another *finishing material* may be applied as a *topcoat* over the *enamel*.

"*Equipment Leak*" means emissions of *volatile organic compounds* or *volatile hazardous air pollutants* from pumps, valves, flanges, or other equipment used to transfer or apply *coatings*, *adhesives*, or *organic solvents*.

"*Finishing Material*" means a *coating* used in the *wood furniture* industry. Such materials include, but are not limited to, *stains*, *basecoats*, *washcoats*, *enamels*, *sealers*, and *topcoats*.

"*Finishing Operation*" means those operations in which a *finishing material* is applied to a *substrate* and is subsequently air-dried, cured in an oven, or cured by radiation.

"Foam Adhesive" means a *contact adhesive* used for gluing foam to fabric, foam to foam, and fabric to wood.

"*Nonporous Substrate*" means a surface that is impermeable to liquids. Examples include metal, rigid plastic, flexible vinyl, and rubber.

"Normally Closed Container" means a container that is closed unless an operator is actively engaged in activities such as emptying or filling the container.

"*Organic Solvent*" means a liquid containing *volatile organic compounds* or *volatile hazardous air pollutant* that is used for dissolving or dispersing constituents in a *coating* or *contact adhesive*, adjusting the viscosity of a *coating* or *contact adhesive*, or cleaning equipment. When used in a *coating* or *contact adhesive*, the *organic solvent* evaporates during drying and does not become a part of the dried film.

"*Sealer"* means a *finishing material* used to seal the pores of a wood *substrate* before additional coats of *finishing material* are applied. Special purpose *finishing materials* that are used in some finishing systems to optimize aesthetics are not *sealers*.

"*Solvent"* means a liquid used in a *coating* or *contact adhesive* to dissolve or disperse constituents and/or to adjust viscosity. It evaporates during drying and does not become a part of the dried film.

"*Stain"* means any color coat having a *solids* content by weight of no more than 8.0 percent that is applied in single or multiple coats directly to the *substrate*. It includes, but is not limited to, non-grain raising

*stain*s, equalizer *stain*s, prestains, sap *stain*s, body *stain*s, no-wipe *stain*s, penetrating *stain*s, and toners.

"*Strippable Spray Booth Coating"* means a *coating* that: (1) is applied to a spray booth wall to provide a protective film to receive overspray during *finishing operation*s; (2) that is subsequently peeled off and disposed; and (3) by achieving (1) and (2), reduces or eliminates the need to use *organic solvent*s to clean spray booth walls.

"*Substrate"* means the surface onto which a *coating* or *contact adhesive* is applied (or into which a *coating* or *contact adhesive* is impregnated).

"*Thinner*" means a volatile liquid that is used to dilute *coating*s or *contact adhesive*s (to reduce viscosity, color strength, and *solids*, or to modify drying conditions).

"*Topcoat*" means the last film-building *finishing material* that is applied in a finishing system.

"Touchup and Repair" means the application of *finishing material*s to cover minor finishing imperfections.

"*Volatile Hazardous Air Pollutant (VHAP)*" means any *volatile hazardous air pollutant* listed in Table 2 to Subart JJ of 40 C.F.R. Part 63.

"*Washcoat"* means a transparent special purpose *finishing material* having a *solids* content by weight of 12.0 percent by weight or less. *Washcoat*s are applied over initial *stain*s to protect, to control color, and to stiffen the wood fibers in order to aid sanding.

"*Washoff Operations"* means those operations in which *organic solvent* is used to remove *coating* from *wood furniture* or a *wood furniture component*.

"*Wood Furniture*" means any product made of wood, a wood product such as rattan or wicker, or an engineered wood product such as particleboard that is manufactured under any of the following standard industrial classification codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, 2599, or 5712.

A *"Wood Furniture Component"* means any part that is used in the manufacture of *wood furniture*. Examples include, but are not limited to, drawer sides, cabinet doors, seat cushions, and laminated tops.

A *"Wood Furniture Manufacturing Operations*" means the finishing, gluing, cleaning, and/or *washoff operations* associated with the production of *wood furniture* or *wood furniture component*s.

(c) Standards

(1) *VOC* Emission Limitations. Each owner or operator of a *stationary source* subject to this subsection which has allowable emissions of 25 tons per year or more of *VOC* shall limit *VOC* emissions from *wood furniture manufacturing operations* by:

(i) Using only *topcoat*s containing no more than 1.8 lbs *VOC*/lb *solids*, *as applied*, and *sealer*s containing no more than 1.9 lbs *VOC*/lb *solids*, *as applied*, or the equivalent. Compliance shall be demonstrated by any of the compliance methods in (e)(1);

(ii) Using acid-cured alkyd amino vinyl *sealers* containing no more than 2.3 lbs *VOC*/lb *solids*, *as applied*, and acid-cured alkyd amino conversion varnish *topcoats* containing no more than 2.0 lbs *VOC*/lb *solids*, *as applied*, or the equivalent. Compliance shall be demonstrated by any of the compliance methods in (e)(1); and

(iii) Using only *strippable spray booth coating*s containing no more than 0.8 lbs *VOC*/lb *solids*, *as applied*.

(2) *VHAP* Emission Limitations for Existing Sources. Each owner or operator of a *stationary source* subject to this subsection which is located at a major source of *HAP*s and which began operations before December 6, 1994 shall:

(i) Use only *stain*s, *washcoat*s, *sealer*s, *topcoat*s, *basecoat*s and *enamel*s with *VHAP* contents of no more than 1.0 lbs *VHAP*/lb *solids*, *as applied*; *thinner*s for *stain*s, *sealer*s and *topcoat*s that contain no more than 10% *VHAP* by weight; and *thinner*s for *washcoat*s, *basecoat*s and *enamel*s that contain no more than 3% *VHAP* by weight; or the equivalent. Compliance shall be demonstrated by any of the compliance methods in (e)(2). The formaldehyde content of a *finishing material* shall be calculated as the amount of free formaldehyde present in the *finishing material* when it is applied. The styrene content of a *finishing material* shall be based on an estimate of the unreacted styrene, which shall be calculated by multiplying the amount of styrene monomer in the *finishing material* when it is applied by a factor of 0.16;

(ii) Limit *VHAP* emissions from *contact adhesive*s by achieving a *VHAP* limit for *contact adhesive*s based on the following criteria:

(A) For *foam adhesive*s (*contact adhesive*s used for upholstery operations) used in products that meet the upholstered seating flammability requirements of California Technical Bulletin 116, 117, or 133, the Business and Institutional Furniture Manufacturers Association's (BIFMA's) X5.7, UFAC flammability testing, or any similar requirements from local, State, or Federal fire regulatory agencies, the *VHAP* content of the *adhesive* shall not exceed 1.8 lb *VHAP*/lb *solids*, *as applied*; or

(B) For all other *contact adhesive*s (including *foam adhesive*s used in products that do not meet the standards presented in (c)(2)(ii)(A), but excluding *aerosol adhesive*s and excluding *contact adhesive*s

applied to *nonporous substrates*, the *VHAP* content of the *adhesive* shall not exceed 1.0 lb *VHAP*/lb *solids*, *as applied*, or the equivalent. Compliance shall be demonstrated by either of the methods in (e)(3).

(iii) Use only *strippable spray booth coating*s that contain no more than 0.8 lb *VOC*/lb *solids*, *as applied*.

(3) *VHAP* Emission Limitations for New Sources. Each owner or operator of a *stationary source* subject to this subsection which is located at a major source of *HAP*s and which began operations on or after December 6, 1994 shall:

(i) Use only *stain*s with a *VHAP* content of no more than 1.0 lbs *VHAP*/lb *solids*, *as applied*; *washcoat*s, *sealer*s, *topcoat*s, *basecoat*s and *enamel*s with a *VHAP* content of no more than 0.8 lbs *VHAP*/lb *solids*, *as applied*; *thinner*s for *stain*s, *sealer*s and *topcoat*s that contain no more than 10% *VHAP* by weight; and *thinner*s for *washcoat*s, *basecoat*s and *enamel*s that contain no more than 3% *VHAP* by weight; or the equivalent. Compliance shall be demonstrated by any of the methods in (e)(2). The formaldehyde content of a *finishing material* shall be calculated as the amount of free formaldehyde present in the *finishing material* when it is applied. The styrene content of a *finishing material* shall be based on an estimate of the unreacted styrene, which shall be calculated by multiplying the amount of styrene monomer in the *finishing material* when it is applied by a factor of 0.16;

(ii) Limit *VHAP* emissions from *contact adhesive*s by achieving a *VHAP* limit for *contact adhesive*s, excluding *aerosol adhesive*s and excluding *contact adhesive*s applied to *nonporous substrate*s, of no more than 0.2 lb *VHAP*/lb *solids*, *as applied*, or the equivalent. Compliance shall be demonstrated by either of the methods in (e)(3); and

(iii) Use only *strippable spray booth coating*s that contain no more than 0.8 lb *VOC*/lb *solids*, *as applied*.

(4) Control of Emissions of Individual Hazardous Air Contaminants. Each owner or operator of a *stationary source* subject to this subsection shall comply with Section 5-261 of this chapter with regards to volatile hazardous air contaminants as provided below:

(i) With regard to any volatile hazardous air contaminant whose emission rate from the entire *stationary source* is found to exceed its *Action Level*, the owner or operator shall achieve HMSER, as provided in subsection (2) of Section 5-261; and

(ii) The owner or operator shall be subject to the requirements of subsections (3), (4) and (5) of Section 5-261, where applicable, except that said requirements shall not apply to any emissions of volatile hazardous air contaminants caused by the use of water based *coating*s or *coating*s cured by means of ultraviolet radiation provided that the owner or operator

complies with the standards established in paragraphs (c)(1), (2) and (3) of this subsection.

(d) Work Practice Standards

(1) Work practice implementation plan. Each owner or operator of a *stationary source* subject to this subsection shall prepare, maintain and adhere to a written work practice implementation plan that defines environmentally desirable work practices for each *wood furniture manufacturing operation* and for all other finishing, gluing, cleaning and *washoff operations* at the source and addresses each of the work practice standards presented in sub paragraphs (2) through (11) of this paragraph. The plan shall be developed no more than 60 days after the compliance date for each subject source. The written work practice implementation plan shall be available for inspection by the *Air Pollution Control Officer* upon request. If the *Air Pollution Control Officer* determines that the work practice implementation plan does not adequately address each of the topics specified in paragraphs (2) through (11) of this paragraph, as applicable, or that the plan does not include sufficient mechanisms for ensuring that the work practice standards are being implemented, the *Air Pollution Control Officer* may require the owner or operator to modify the plan.

(2) Operator training course. Each owner or operator of a *stationary source* subject to this subsection shall train all new and existing personnel, including contract personnel, who are involved in finishing, gluing, cleaning, and *washoff operations* or implementation of the requirements of this subsection. All new personnel shall be trained upon hiring. All existing personnel shall be trained within 6 months of the effective date of this subsection. All personnel shall be given refresher training annually. The owner or operator shall maintain a copy of the training program with the work practice implementation plan. The training program shall include, at a minimum, the following:

(i) A list of all current personnel by name and job description that are required to be trained;

(ii) An outline of the subjects to be covered in the initial and refresher training for each position or group of personnel;

(iii) Lesson plans for courses to be given at the initial and the annual refresher training that include, at a minimum, appropriate application techniques, appropriate cleaning and washoff procedures, appropriate equipment setup and adjustment to minimize *finishing material* usage and overspray, and appropriate management of cleanup wastes; and

(iv) A description of the methods to be used at the completion of initial or refresher training to demonstrate and document successful completion.

(3) Inspection and maintenance plan. Each owner or operator of a *stationary source* subject to this subsection shall prepare,

maintain and adhere to a written *equipment leak* inspection and maintenance plan that specifies:

(i) A minimum visual inspection frequency of once per month for all equipment used to transfer or apply *coatings*, adhesives, or organic solvents;

(ii) An inspection schedule;

(iii) Methods for documenting the date and results of each inspection and any repairs that were made;

(iv) The timeframe between identifying the leak and making the repair, which adheres, at a minimum, to the following schedule:

(A) A first attempt at repair (e.g., tightening of packing glands) shall be made no later than five calendar days after the leak is detected; and

(B) Final repairs shall be made within 15 calendar days after the leak is detected, unless the leaking equipment is to be replaced by a new purchase, in which case repairs shall be completed within three months.

(4) Cleaning and washoff *solvent* accounting system. Each owner or operator of a *stationary source* subject to this subsection shall develop and use an *organic solvent* accounting form to record:

(i) The quantity and type of *organic solvent* used each month for washoff and cleaning;

(ii) The number of pieces washed off, and the reason for the washoff; and

(iii) The quantity of spent *organic solvent* generated from each washoff and *cleaning operation* each month, and whether it is recycled onsite or disposed offsite.

(5) Chemical composition of cleaning and washoff *solvent*s. Each owner or operator of a *stationary source* subject to this subsection shall not use cleaning or washoff *solvent*s that contain any of the pollutants listed in Table 4 to Subart JJ of 40 C.F.R. Part 63 in concentrations subject to MSDS reporting as required by OSHA.

(6) Spray booth cleaning. Each owner or operator of a *stationary source* subject to this subsection shall not use compounds containing more than 8.0 percent by weight of *VOC* for cleaning spray booth components other than conveyors, *continuous coater*s and their enclosures, or metal filters. However, when the spray booth *coating* or other protective material used to cover the booth is being replaced, the owner or operator shall use no more than 1.0 gallon of *organic solvent* per booth to prepare the surface of the booth prior to applying the booth *coating*.

(7) Storage requirements. Each owner or operator of a *stationary source* subject to this subsection shall use *normally closed container*s for storing finishing, gluing, cleaning, and washoff materials.

(8) Application equipment requirements. Each owner or operator of a *stationary source* subject to this subsection shall not use *conventional air spray* guns to apply *finishing materials*, except when all emissions from the finishing application station are routed to a functioning control device.

(9) Line cleaning. Each owner or operator of a *stationary source* subject to this subsection shall pump or drain all *organic solvent* used for line cleaning into a *normally closed container*.

(10) Gun cleaning. Each owner or operator of a *stationary source* subject to this subsection shall collect all *organic solvent* used to clean spray guns into a *normally closed container*.

(11) *Washoff operations*. Each owner or operator of a *stationary source* subject to this subsection shall control emissions from *washoff operations* by:

(i) Using normally closed tanks for washoff; and

(ii) Minimizing dripping by tilting or rotating the part to drain as much *solvent* as possible.

(e) Compliance procedures and monitoring requirements

(1) Each owner or operator of a *stationary source* subject to this subsection must demonstrate compliance with the provisions of (c)(1)(i) and (c)(1)(ii), as applicable, by using one of the following methods:

(i) By use of compliant *topcoat*s and *sealer*s, including acid-cured *topcoats* and *sealers*, as demonstrated by maintaining current *certified product data sheet*s for each *topcoat* and *sealer* and by performing, prior to use, calculations to account for any dilution;

(ii) By use of *topcoat*s and *sealer*s with a monthly weighted average for each that achieves the emission limitations in pounds of *VOC* per pound *solids* of 1.8 for *topcoat*s and 1.9 for *sealer*s, or 2.3 for acid-cured alkyd amino vinyl *sealers* and 2.0 for acid-cured alkyd amino conversion varnish *topcoats*, as demonstrated by using the following formula and by maintaining current *certified product data sheet*s for each *topcoat* and *sealer* and by performing, prior to use, calculations to account for any dilution:

$$E_{VOC} = \frac{\sum_{i=1}^{n} M_i C_i}{\sum_{i=1}^{n} M_i}$$

Where:

E_{VOC} = the average *VOC* content of the *topcoat*s or *sealer*, respectively, in lbs *VOC*/lb *solids*;
C = the *VOC* content of a particular *topcoat* or *sealer*, in lbs *VOC*/lb *solids*, *as applied*;
M = the mass of *solids*, in pounds, in a particular *topcoat* or *sealer* used during the monthly averaging period.

(iii) By achieving equivalent emission reductions through the use of a control system and monitoring requirements approved by the *Air Pollution Control Officer*; or

(iv) By achieving equivalent emission reductions through the use of any combination, approved by the *Air Pollution Control Officer*, of compliant *topcoat*s and *sealer*s, an averaging approach and a control system, each as provided for above.

(2) Each owner or operator of a *stationary source* subject to this subsection must demonstrate compliance with the provisions of (c)(2)(i) and (c)(3)(i), as applicable, by using one of the following methods:

(i) By use of compliant *finishing material*s as demonstrated by maintaining current *certified product data sheet*s for each *finishing material* and by performing, prior to use, calculations to account for any dilution;

(ii) By use of *finishing material*s with a monthly weighted average that achieves the emission limitation in pounds of *VHAP* per pound *solids* of 1.0 for existing sources and 0.8 for new sources, as demonstrated by using the following formula and by maintaining current *certified product data sheet*s for each *finishing material* and by performing, prior to use, calculations to account for any dilution:

$$E_{HAP} = \frac{\sum_{i=1}^{n} M_i C_i}{\sum_{i=1}^{n} M_i}$$

Where:

E_{HAP} = the average *HAP* content of the *finishing material*, in lbs *HAP*/lb *solids*;
C = the *HAP* content of a particular *finishing material*, in lbs *HAP*/lb *solids*, *as applied*;

M = the mass of *solids*, in pounds, in a particular *finishing material* used during the monthly averaging period.

(iii) By achieving equivalent emission reductions through the use of a control system and monitoring requirements approved by the *Air Pollution Control Officer*; or

(iv) By achieving equivalent emission reductions through the use of a combination, approved by the *Air Pollution Control Officer,* of compliant *finishing materials*, an averaging approach and a control system, each as provided for above.

(3) Each owner or operator of a *stationary source* subject to this subsection must demonstrate compliance with the provisions of (c)(2)(ii) and (c)(3)(ii), as applicable, by using one of the following methods:

(i) By use of compliant *adhesives*; or

(ii) By achieving equivalent emission reductions through the use of a control system and monitoring requirements approved by the *Air Pollution Control Officer*.

(f) Record keeping requirements. The owner or operator of a *stationary source* subject to this subsection shall maintain records of the following and shall retain such records for a minimum period of five years:

(1) A certified product data sheet for each finishing material, thinner, contact *adhesive*, and strippable spray booth coating used at the source.

(2) The VHAP content in lb VHAP/lb solids, as applied, of each finishing material, thinner, and contact *adhesive* used at the source.

(3) The VOC content in lb VOC/lb solids, as applied, of each topcoat, sealer, and strippable spray booth coating used at the source.

(4) The quantity of each finishing material, thinner, contact *adhesive*, and strippable spray booth coating used at the source each month.

(5) For stationary sources demonstrating compliance with (c)(1)(i), (c)(1)(ii), (c)(2)(i), or (c)(3)(i) through monthly averaging, the averaging calculation completed in accordance with (e)(1)(ii) and (e)(2)(ii), as applicable, for each month.

(6) For stationary sources with continuous coaters demonstrating compliance with (c)(1)(i), (c)(1)(ii), (c)(2)(i), or (c)(3)(i) through the use of compliant *coatings* where the VHAP or VOC content of the *coating* in the reservoir is not calculated from records, the owner or operator shall maintain records of the following:

(i) *Solvent* and *coating* additions to the *continuous coater* reservoir;

(ii) Viscosity measurements; and

(iii) Data demonstrating that viscosity is an appropriate parameter for demonstrating compliance, as applicable.

(7) For *stationary source*s demonstrating compliance with (c)(1)(i), (c)(1)(ii), (c)(2)(i), or (c)(3)(i) by use of a control device, any records required by the *Air Pollution Control Officer*.

(8) The work practice implementation plan and all records associated with fulfilling the requirements of that plan, including, but not limited to:

(i) Records demonstrating that the operator training program is in place;

(ii) Records collected in accordance with the inspection and maintenance plan;

(iii) Records associated with the cleaning *solvent* accounting system;

(iv) Records associated with the limitation on the use of *conventional air spray* guns showing total *finishing material* usage and the percentage of *finishing material*s applied with *conventional air spray* guns for each semiannual period; and

(v) Copies of documentation such as logs developed to demonstrate that the other provisions of the work practice implementation plan are followed.

(9) All compliance status reports and all other information submitted with those reports.

(g) Reporting requirements.

(1) The owner or operator of a *stationary source* subject to this subsection shall submit a semi-annual compliance status report covering the previous 6 months of *wood furniture manufacturing operations*. The semiannual reports shall cover the periods January 1 through June 30 and July 1 through December 31. The first report shall be submitted within 30 calendar days after the end of the 6-month period in which the source becomes subject to this subsection. Subsequent reports shall be submitted within 30 calendar days after the end of the 6-month reporting periods. The semiannual reports shall include:

(i) For *stationary source*s demonstrating compliance with (c)(1)(i), (c)(1)(ii), (c)(2)(i), or (c)(3)(i) through the use of compliant *coating*s, a statement that compliant *coating*s and *thinner*s have been used each day in the semiannual reporting period;

(ii) For *stationary source*s demonstrating compliance with (c)(1)(i), (c)(1)(ii), (c)(2)(i), or (c)(3)(i) through monthly averaging, the averaging calculations completed in

accordance with (e)(1)(ii) and (e)(2)(ii), as applicable, for each month within the semiannual reporting period and a statement that the source is in compliance with the respective standard;

(iii) For *stationary source*s with *continuous coater*s demonstrating compliance with (c)(1)(i), (c)(1)(ii), (c)(2)(i) or (c)(3)(i) through the use of compliant *coating*s:

(A) A statement that compliant *coating*s, as determined by the *VHAP* or VOC content of the *coating* in the reservoir and the *VHAP or VOC* content as calculated from records, and compliant *thinner*s have been used each day in the semiannual reporting period; or

(B) A statement that compliant *coating*s, as determined by the *VHAP* or VOC content of the *coating* in the reservoir, have been used each day in the semiannual reporting period. Additionally, a statement that the viscosity of the *coating* in the reservoir has not been less than the viscosity of the initial *coating*, that is, the *coating* that is initially mixed and placed in the reservoir, for any day in the semiannual reporting period.

A *stationary source* is in violation of the standard when a sample of the as-applied *coating* exceeds the applicable limit, as determined using EPA Method 311 and/or Method 24, or the viscosity of the *coating* in the reservoir is less than the viscosity of the initial *coating*.

(iv) For *stationary source*s demonstrating compliance with (c)(1)(i), (c)(1)(ii), (c)(2)(i), or (c)(3)(i) by use of a *control device*, an excess emissions report that includes all elements required by the *Air Pollution Control Officer*.

(v) For *stationary source*s demonstrating compliance with (c)(2)(ii), or (c)(3)(ii) through the use of compliant *contact adhesive*s, a statement that compliant *contact adhesive*s have been used each day in the semiannual reporting period;

(vi) For *stationary source*s demonstrating compliance with (c)(2)(ii), or (c)(3)(ii) by use of a *control device* for *contact adhesive*s, an excess emissions report that includes all elements required by the *Air Pollution Control Officer*.

(vii) A statement that compliant *strippable spray booth coating*s have been used each day in the semiannual reporting period;

(viii) A statement that the work practice implementation plan is being followed; and

(ix) If the *stationary source* was in violation of any provision of this subsection, the measures taken to bring the source into compliance.

(h) Compliance. A *stationary source* subject to this subsection shall be in compliance on or before the effective date of this rule, immediately upon *commencement of operation*, or when the source becomes subject to this subsection, whichever occurs later.

NOTE: Section 5-253.16 became effective on March 1, 2004.

5-253.17 ~~Reserved.~~Industrial Cleaning Solvents.

(a) Applicability.

(1) Except as provided at paragraph (a)(3) below, this section shall apply to an owner or operator of any premises who purchases for use at the premises at least 855 gallons of *cleaning solvents*, in aggregate, per rolling 12-month period.

(2) Any owner or operator which is subject to the requirements of this section shall comply with the requirements of this section on or before [Enter Date] and shall remain so even if solvent use subsequently falls below the applicability threshold.

(3) The requirements of this section shall not apply to the use or purchase of *cleaning solvent* as follows:

(i) In *janitorial cleaning*,

(ii) Associated with research and development,

(iii) Associated with quality control or laboratory testing of coatings, inks or adhesives,

(iv) Associated with *medical device* manufacturing,

(v) Associated with pharmaceutical manufacturing,

(vi) That exceeds the applicable limit of paragraph (c)(1)(i) of this section where the quantity used does not exceed 55 gallons per any twelve-month rolling aggregate. Any person claiming exemption pursuant to this clause shall record and maintain monthly records sufficient to demonstrate compliance with this exemption, or

(vii) That exceeds the applicable limit of paragraph (c)(1)(i) of this section, if approved by the Air Pollution Control Officer and the EPA. Any request for approval shall be made in writing to the Air Pollution Control Officer and the EPA and shall include a description of the *cleaning solvent* and its *VOC content*, an explanation of why the *cleaning solvent* is necessary, quantification of the amount of the VOC that will be emitted as a result of the use of the noncompliant *cleaning solvent* and the time period over which the noncompliant solvent will be used.

(b) Definitions. For the purpose of this section, the following definitions apply, in addition to those of Section 5-101.

"Cleaning solvent" means any VOC-containing liquid, including a liquid impregnated wipe or towelette, used in cleaning;

"Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;

"Industrial solvent cleaning" means the use of *cleaning solvent* to remove uncured adhesives, uncured inks, uncured coatings or contaminants such as dirt, soil or grease from parts, products, tools, machinery, equipment or work areas, where such parts, products, tools, machinery, equipment and work areas are incorporated into or used exclusively in manufacturing a product. *"Industrial solvent cleaning"* includes spray booth cleaning, cleaning of manufactured components, parts cleaning, cleaning of production equipment for maintenance or to prohibit cross-contamination, and cleaning of tanks, mixing pots, process vessels and lines. *"Industrial solvent cleaning"* does not include the cleaning of personal protection equipment, such as respirators.

"Janitorial cleaning" means general and maintenance cleaning of building or facility components including, but not limited to, floors, ceilings, walls, windows, doors, stairs, restrooms, furnishings, kitchens and exterior surfaces of office equipment. *"Janitorial cleaning"* includes graffiti removal. *"Janitorial cleaning"* does not include the cleaning of parts, products or equipment, where such parts, products or equipment are incorporated into or used exclusively in manufacturing a product. *"Janitorial cleaning"* excludes the cleaning of work areas, such as laboratory benches, where manufacturing or repair activity is performed;

"Medical device" means an instrument, apparatus, implement, machine, gadget, appliance, implant, in vitro reagent or other similar or related article, including any component, part or accessory, which meets one of the following conditions:

(1) Recognized in the official National Formulary or the United States Pharmacopeia or any supplement thereto,

(2) Intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment or prevention of disease, in persons or animals, or

(3) Intended to affect the structure or function of the body of a person or animal, and which does not achieve its primary intended purposes through chemical action within or on such body and which is not dependent upon being metabolized for the achievement of its primary intended purposes; and

"VOC content" means the as-applied *VOC content* of a *cleaning solvent* at the time of use, including any solvent, catalyst or other substance added to the as-supplied *cleaning solvent*. *"VOC content"* is determined using an EPA reference method, a California Air Resources Board reference method or other method approved by the Air Pollution Control Officer.

(c) Standards.

(1) Any owner or operator performing *industrial solvent cleaning*, except as provided in paragraph (a), shall use one of the following methods to limit VOC emissions:

(i) Use only *cleaning solvent* that complies with one of the following limitations:

(A) As-applied, has a *VOC content* that does not exceed 50 grams per liter (0.42 lb/gal), or

(B) As-applied, has a vapor pressure no greater than 8 mmHg at 20°C; or

(ii) Install, operate and maintain in accordance with the manufacturer's recommendations, air pollution control equipment that reduces uncontrolled VOC emissions to the atmosphere from any *industrial solvent cleaning* by an *overall emissions reduction efficiency* of at least 85%.

(d) Work practices. Each owner or operator shall use the following work practices:

(1) New and used *cleaning solvent*, including those mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(2) Spills and leaks of *cleaning solvent* shall be minimized. Any leaked or spilled *cleaning solvent* shall be absorbed and removed immediately;

(3) Absorbent applicators, such as cloth and paper, which are moistened with *cleaning solvent*, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; and

(4) *Cleaning solvent* shall be conveyed from one location to another in a closed container or pipe.

(e) Records.

(1) An owner or operator conducting *industrial solvent cleaning* shall maintain records of the information described in paragraph (e)(2) of this section. Such records shall be:

(i) Made available to the Air Pollution Control Officer to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(2) An owner or operator conducting *industrial solvent cleaning* shall maintain daily records of all *cleaning solvents* used, as follows:

(i) Name and description of each *cleaning solvent*,

(ii) *VOC content* of each *cleaning solvent*, as-applied, and the associated calculations,

(iii) *VOC content* of each *cleaning solvent*, as supplied,

(iv) The amount of each *cleaning solvent*,

(v) A Material Safety Data Sheet for each *cleaning solvent*,

(vi) Documentation of *control device efficiency* and *capture efficiency*, if applicable, using an applicable EPA reference method or alternate method as approved by the Air Pollution Control Officer and the EPA, and

(vii) Date and type of maintenance performed on air pollution control equipment, if applicable.

(3) Any owner or operator conducting *industrial solvent cleaning* who is not otherwise subject to the provisions of this section shall maintain materials purchase records to verify that the provisions of this section do not apply to such owner or operator.

(4) An owner or operator conducting *industrial solvent cleaning* subject to an exemption or exception in paragraph (a) of this subsection shall maintain records sufficient to verify the applicability of the exemption or exception.

5-253.18 Reserved.

5-253.19 Reserved.

5-253.20 Other Sources That Emit Volatile Organic Compounds

(a) Applicability.

(1) This subsection shall apply to any operation that emits *VOCs* and that is not subject to any other subsection of Section 5-253. A source is subject to this subsection if it has operations or processes not otherwise regulated under Section 5-253, that, as a group, have *allowable emissions* of 50 *tons* or more of *VOCs* per calendar year since January 1, 1990.

(2) Any source that becomes or is currently subject to the provisions of this subsection by exceeding the applicability threshold shall remain subject to the provisions of this subsection even if its *emissions* later fall below the applicability threshold.

(3) This subsection does not apply to *fuel* combustion sources or waste water treatment plants.

(b) Standards. The owner or operator of any operation at a source subject to this subsection shall:

(1) Install and operate *emission* capture and control techniques or use complying *coatings* that achieve an overall reduction in uncontrolled *VOC emissions* of at least 81 weight percent;

(2) For any *coating unit*, limit the daily weighted average *VOC* content to 3.5 pounds of *VOC* per gallon or less of *coating*, as applied (excluding water and exempt compounds) as calculated in accordance with methods specified by the *Air Pollution Control Officer*; or

(3) Comply with an alternative control plan approved by the *Air Pollution Control Officer*. The alternative control plan shall contain, at a minimum, the following:

(i) An inventory of all *VOC* emitting equipment at the facility;

(ii) An inventory of all affected *VOC*-emitting equipment at the facility not exempt under paragraph (a)(3), and the maximum capacity of each piece of nonexempt *VOC* emitting equipment;

(iii) The actual amount of *VOC* emitted each day from each piece of equipment subject to this section;

(iv) An examination of the technical and economic feasibility of available add-on *control devices* for all *VOC* emitting equipment;

(v) An examination of the technical and economic feasibility of changing to low *VOC* emitting processes;

(vi) The control option selected, stating the *emission* limits and test methods used to demonstrate compliance;

(vii) The proposed amount of *VOC* to be controlled from each affected piece of *VOC* emitting equipment; and

(viii) An implementation schedule, including a schedule for compliance.

(c) Record keeping and reporting. The *Air Pollution Control Officer* may require the owner or operator of any operation at a source complying with this subsection to perform such compliance testing, keep such records and furnish such reports as necessary to demonstrate continuing compliance with this subsection.

(d) Compliance.

(1) The owner or operator of a source subject to this subsection shall achieve compliance with the standards in paragraph (b) of this subsection or file an approved alternative control plan with the *Agency* by November 15, 1993.

(2) The owner or operator of a source subject to an approved alternative control plan shall achieve compliance with said plan as expeditiously as practicable, but no later than November 15, 1994.

(e) Exemptions

(1) Each affected facility that has not emitted 50 *tons of VOC* per calendar year since January 1, 1990, shall be exempt from the requirements of paragraph (b) provided that the owner or operator submits a report to the *Agency* that contains the following:

(a) The actual amount of *VOC* emitted from each piece of affected *VOC*-emitting equipment in each calendar year beginning on January 1, 1990;

(b) The design and operation of the affected *VOC*-emitting equipment; and

(c) Any other information that the *Agency* may require to establish enforceable conditions.

(2) The *Agency* shall issue an order to the owner or operator which shall contain, but is not limited to, enforceable short-term limits on hours of operation, raw material use, or operational variables to effectively limit the *emissions* from the source to a maximum of 4.16 *tons* per month.

5-261 CONTROL OF HAZARDOUS AIR CONTAMINANTS

(1) Applicability

(a) No *person* shall discharge, or cause or allow the discharge of, *emissions* of any *hazardous air contaminant*, except in conformity with the provisions of this section. Any *stationary source* whose actual *emission* rate of a contaminant is below the *Action Level* for such contaminant specified in Appendix C of these regulations shall not be subject to this section for that contaminant. In the case of a *stationary source* with multiple *process units*, the *actual emissions* of a contaminant from the entire *stationary source* shall be compared to the appropriate *Action Level* to determine the applicability of this section. If the increase in *emissions* from a *modification* of such a *stationary source*, in conjunction with all other *emissions* from the source, would result in an exceedance of an *Action Level*, the *modification* shall be subject to this section.

(b) The 2007 amendments to Appendix C of these regulations shall take effect 15 days after adoption is complete, unless a *stationary source* operating in conformity with the provisions of this section and Appendix C in effect prior to the 2007 amendments requests an extension by providing the *Secretary* with an alternative timetable and compelling justifications for such timetable and the request for the extension is approved by the *Secretary*.

(c) The following categories of *air contaminant* sources or sources engaged in the following activities are exempt from the requirements of Section 5-261:

(i) Operations conducted for the purpose of spraying or applying agricultural herbicides, pesticides, insecticides, or other

agricultural chemicals under a program approved by the Vermont Department of Agriculture; and

(ii) Solid *fuel burning equipment* (not including *incinerators*) installed or constructed prior to January 1, 1993, and all *fuel burning equipment* which combusts virgin liquid or gaseous *fuel*.

(2) *Hazardous Most Stringent Emission Rate*

For each *hazardous air contaminant* listed in Appendix B herein and emitted by a *stationary source*, the source shall apply control technology, production processes or other techniques adequate to achieve the *hazardous most stringent emission rate (HMSER)*. Once the *Secretary* has determined *HMSER* for a *stationary source* and this determination has been included in an order or agreement entered into or issued under the authority of the *Act*, 3 V.S.A. §2822 or other State statutes, said determination shall remain in effect for five years, unless the source is modified or *reconstructed* during said five years. At the end of said five years, the determination shall expire unless the source demonstrates to the *Secretary* that such *emission* rate still represents *HMSER*.

(3) *Air Quality Impact Evaluation*

The *Secretary* may require any *person* subject to this section to submit to him or her an *air quality impact evaluation* which shall demonstrate whether the *actual emissions* from the source, in conjunction with *emissions* from all other sources, will or will not cause or contribute to *ambient air* concentrations in excess of any *Hazardous Ambient Air Standard* as set forth in Appendix C of these regulations. Said evaluation shall be performed in accordance with the *Agency's air quality impact evaluation* guidelines (revised November 20, 1992) and shall include an analysis of *ambient air* monitoring data for each contaminant evaluated, if reliable and representative data exists. In determining whether such an impact evaluation is warranted, the *Secretary* shall take into consideration the following factors:

(a) The degree of toxicity of the *air contaminant* and the *emission* rate;

(b) The proximity of the source to residences, population centers and other sensitive human receptors; and

(c) *Emission* dispersion characteristics at or near the source, taking into account the physical location of the source relative to surrounding buildings and terrain.

(4) *Hazardous Ambient Air Standards*

No *person* shall discharge, or cause or allow the discharge of, any *hazardous air contaminants* from a *stationary sourc*e which cause or contribute to *ambient air* concentrations in excess of any *Hazardous Ambient Air Standard.*

(5) Special Procedures for Contaminants in Appendix C, Category I

(a) Notwithstanding any other provisions of Section 5-261, beginning January 1, 1993, no *person* shall discharge, or cause or allow the discharge of, any Appendix C, Category I contaminants from a *stationary source* which would exceed any *stationary source hazardous air impact standard*. *Emissions* subject to this subsection shall not be subject to the requirements of subsections (3) or (4) of this section.

(b) The *Secretary* may require the owner or operator of a *stationary source* subject to this section with respect to *emissions* of any Appendix C, Category I contaminant to submit to the *Secretary* an *air quality impact evaluation* which shall demonstrate whether the *actual emissions* from the subject source will violate subsection (5)(a) of this section. Said evaluation shall be performed in accordance with the *Agency's air quality impact evaluation* guidelines (revised November 20, 1992).

(c) If the *Secretary* determines, through air quality monitoring, that the annual concentration of a contaminant listed in Appendix C, Category I has exceeded its *hazardous ambient air standard*, the *Secretary* shall adopt a Toxic Action Plan (TAP) for the contaminant. Each TAP shall contain a strategy to reduce *ambient air* concentrations of the contaminant. The *Secretary* may also adopt TAPs for other *hazardous air contaminants*.

(6) Interim Standards

(a) If any stationary source emits or proposes to emit a *hazardous air contaminant* which is not listed in Appendix B of these regulations, the *Secretary* shall determine an interim *Hazardous Ambient Air Standard* or interim *Stationary Source Hazardous Air Impact Standard*, if appropriate and an interim *Action Level* for said contaminant, provided that sufficient health data are available. In that event, such source shall be subject to all requirements of this section in the same manner as if said contaminant were listed in Appendices B and C herein. Such interim standards shall remain in effect until revised by rulemaking or adjusted in accordance with this subsection.

(b) If additional scientific data becomes available that warrants adjusting a standard, including default values, for a chemical or compound listed in Appendices B and C herein, the data along with the underlying studies may be submitted to the *Secretary* for review. After evaluating such information in consultation with the Department of Health, the *Secretary* may on a case-by-case basis adjust the standard or maintain the existing standard for the chemical or compound. If the *Secretary* adjusts the standard, the interim standard shall remain in effect until revised by rulemaking or adjusted in accordance with this subsection.

(c) Prior to making a determination under (a) or (b) of this subsection, the *Secretary* may provide an opportunity for public participation in such manner as determined in the discretion of the *Secretary*, including public notification on the *Agency's* website.

5-271 CONTROL OF AIR CONTAMINANTS FROM STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

(a) Applicability.

(1) For all stationary reciprocating internal combustion engines, excluding *emergency use engines*, with a brake horsepower output rating of 450 bhp or greater installed prior to July 1, 1999, the Tier 1 standards specified in subsection (b) of this section shall become effective beginning July 1, 2007.

(2) For all stationary reciprocating internal combustion engines, including *emergency use engines*, with a brake horsepower output rating of 450 bhp or greater installed on or after July 1, 1999 and prior to July 1, 2007, the Tier 1 standards specified in subsection (b) of this section shall apply upon installation.

(3) For all stationary reciprocating internal combustion engines, including *emergency use engines*, with a brake horsepower output rating of 450 bhp or greater installed on or after July 1, 2007, the Tier 2 standards specified in subsection (c) of this section shall apply upon installation.

(b) Tier 1 Standards for *Stationary Reciprocating Internal Combustion Engines* Combusting Liquid or Gaseous *Fossil Fuel*.

(1) A *person* shall not discharge, cause, allow, or permit the *emission* of oxides of nitrogen from any *stationary reciprocating internal combustion engine* subject to this subsection in excess of 6.9 grams per *brake horsepower* hour.

(2) A *person* shall not discharge, cause, allow, or permit the *emission* of carbon monoxide from any *stationary reciprocating internal combustion engine* subject to this subsection in excess of 8.5 grams per *brake horsepower* hour.

(3) A *person* shall not discharge, cause, allow, or permit the *emission* of *particulate matter* from any *stationary reciprocating internal combustion engine* subject to this subsection in excess of 0.40 grams per *brake horsepower* hour.

(c) Tier 2 Standards for *Stationary Reciprocating Internal Combustion Engines* Combusting Liquid or Gaseous *Fossil Fuel*.

(1) A *person* shall not discharge, cause, allow, or permit the *emission* of oxides of nitrogen from any *stationary reciprocating internal combustion engine* subject to this subsection in excess of 4.8 grams per *brake horsepower* hour.

(2) A *person* shall not discharge, cause, allow, or permit the *emission* of carbon monoxide from any *stationary reciprocating internal combustion engine* subject to this subsection in excess of 2.6 grams per *brake horsepower* hour.

(3) A *person* shall not discharge, cause, allow, or permit the *emission* of *particulate matter* from any *stationary reciprocating internal combustion engine* subject to this subsection in excess of 0.15 grams per *brake horsepower* hour.

(d) Test Methods for *Stationary Reciprocating Internal Combustion Engines* Combusting Liquid or Gaseous *Fossil Fuel*.

(1) Compliance with the *emission* standards specified in subsections (b) and (c) of this section shall be determined either by demonstrating the engine has met the engine certification requirements of 40 C.F.R. Part 89 or by using test procedures set forth by the *Air Pollution Control Officer* at rated load and speed of the *stationary reciprocating internal combustion engine*.

SUBCHAPTER III. AMBIENT AIR QUALITY STANDARDS

5-301 SCOPE

The *ambient air quality standards* contained in this subchapter are based on national *ambient air quality standards*, with the exception of sulfates which are a state standard only. The primary standards define levels of air quality judged adequate to protect the public health. The secondary standards define levels of air quality judged adequate to protect the public welfare, to prevent injury to animal or plant life or property, and to prevent unreasonable interference with the enjoyment of life or property.

5-302 SULFUR OXIDES (SULFUR DIOXIDE)

The *ambient air quality standards* for sulfur oxides, measured as sulfur dioxide in accordance with 40 C.F.R. Part 50, are:

75 parts per billion (ppb), with a 1-hour averaging time and a form of the 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years (Primary Standard).

0.5 parts per million (ppm), with a 3-hour averaging time and a form that is not to be exceeded more than once per year (Secondary Standard).

5-303 RESERVED

5-304 PARTICULATE MATTER $PM_{2.5}$

The *ambient air quality standards* for *particulate matter* $PM_{2.5}$, measured in accordance with 40 C.F.R. Part 50, are:

35 micrograms per cubic meter ($\mu g/m^3$), with a 24-hour averaging time and a form of the 98th percentile, averaged over 3 years (Primary and Secondary Standard).

12 micrograms per cubic meter ($\mu g/m^3$), with an annual averaging time and a form of the annual mean averaged over 3 years (Primary Standard).

15 micrograms per cubic meter ($\mu g/m^3$), with an annual averaging time and a form of the annual mean averaged over 3 years (Secondary Standard).

5-305 RESERVED

5-306 PARTICULATE MATTER PM_{10}

The *ambient air quality standards* for *particulate matter* PM_{10}, measured in accordance with 40 C.F.R. Part 50, are:

150 micrograms per cubic meter ($\mu g/m^3$), with a 24-hour averaging time and a form not to be exceeded more than once per year on average over 3 years (Primary and Secondary Standard).

5-307 CARBON MONOXIDE

The *ambient air quality standards* for carbon monoxide, measured in accordance with 40 C.F.R. Part 50, are:

35 parts per million (ppm), with a 1-hour averaging time and a form not to be exceeded more than once per year (Primary Standard).

9 parts per million (ppm), with an 8-hour averaging time and a form not to be exceeded more than once per year (Primary Standard).

5-308 OZONE

The *ambient air quality standards* for ozone, measured in accordance with 40 C.F.R. Part 50, are:

0.075 parts per million (ppm), with an 8-hour averaging time and a form of the annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years (Primary and Secondary Standard).

5-309 NITROGEN DIOXIDE

The *ambient air quality standards* for nitrogen dioxide, measured in accordance with 40 C.F.R. Part 50, are:

100 parts per billion (ppb), with a 1 hour averaging time, and a form of the 98th percentile, averaged over 3 years (Primary Standard).

53 parts per billion (ppb), with an annual averaging time, and a form of the annual mean (Primary and Secondary Standard).

5-310 LEAD

The *ambient air quality standards* for lead and its compounds, measured in accordance with 40 C.F.R. Part 50, are:

0.15 micrograms per cubic meter ($\mu g/m^3$), with a rolling 3-month average averaging time and a not-to-be-exceeded form, evaluated over a 3-year period (Primary and Secondary Standard).

5-311 RESERVED

5-312 SULFATES

The *ambient air quality standards* for sulfates, measured by methods approved by the *Air Pollution Control Officer*, are:

2 $\mu g/m^3$ - maximum 24-hour concentration (Secondary Standard).

2 $\mu g/m^3$ - summer seasonal arithmetic mean, April to September inclusive (Secondary Standard).

These standards shall apply in any area defined as a *sensitive area* under these regulations.

SUBCHAPTER IV. OPERATIONS AND PROCEDURES

5-401 CLASSIFICATION OF AIR CONTAMINANT SOURCES

(a) Except as provided in Section 5-401(b) below, the following source or sources engaged in the following operations, processes or activities are classified as *air contaminant* sources which may cause or contribute to *air pollution*.

(1) Incinerators

(2) Hot-mix asphalt plants

(3) Electrical power generation facilities

(4) Wood products industries

(5) Mineral product crushing operations comprised of any fixed sand and gravel plant or crushed stone plant with a maximum rated capacity of greater 25 tons per hour, or any portable sand and gravel plant or crushed stone plant with a maximum rated capacity of greater than 150 tons per hour.

(6) *Fuel* burning installations:

(a) *Fossil fuel* burning equipment as specified below:

(i) For *fuel-burning equipment* which solely burns gaseous fuels, individual units of 10 million BTU per hour rated heat input or greater;

(ii) For *fuel-burning equipment* which burns *fuel oil*, individual units of 3 million BTU per hour rated *heat input* or greater which aggregate to 10 million BTU per hour or greater;

(iii) For *fuel-burning equipment* which burns anthracite coal, individual units of 5 million BTU per hour rated *heat input* or greater; and

(iv) Any *fuel-burning equipment* which burns bituminous coal.

(b) *Wood fuel burning equipment* of greater than 90 *H.P.* rated output (~7 million BTU per hour heat input);

(c) *Stationary reciprocating internal combustion engines* using any *fuel* type and having a rating of ~~450~~ 300 *brake horsepower* output or greater, except that *emergency use engines* shall not be classified as air contaminant sources for purposes of Section 5-501 of these regulations.

(7) Metal melting and reclamation furnaces

(8) Metal fabrication processes

(9) Surface finishing and *coating* operations, including application of paints, lacquers, solvents and related materials

(10) Petroleum or petro-chemical processing or marketing

(11) Manufacturing, processing and application of chemicals, including the processing or application of plastics, rubbers or resins

(12) Operations involving the handling or transferring of sand or dust producing materials

(13) Kraft pulping processes

(14) Leather tanning and finishing operations

(15) Animal byproduct processes

(16) Any source not listed above, including sources of *greenhouse gases* that are subject to regulation, which would otherwise be subject to permitting requirements pursuant to the Clean Air Act, as amended (42 U.S.C. 7401, et seq.)

(17) Motor vehicles

(18) Such other sources as may be designated as *air contaminant* sources by the *Air Pollution Control Officer* on a case-by-case basis.

(b) Unless otherwise required by the Air Pollution Control Officer, any stationary source with actual emissions from the entire source of less than five (5) tons per year of all air contaminants combined and that is not engaged in the operations, processes, or activities identified above in Section 5-401(a)(1), (2), (5), (6), (13), (16), or (18) shall not be classified as an air contaminant source provided that the owner/operator maintains records that are adequate for the Air Pollution Control Officer to verify actual emissions for three (3) years and makes such records available to the Air Pollution Control Officer upon request.

5-402 WRITTEN REPORTS WHEN REQUESTED

The *Air Pollution Control Officer* may at any time require written reports from the *person* operating or responsible for any proposed or existing *air contaminant* source, which reports shall contain information concerning location, siting, size and height of contaminant outlets, processes employed, pertinent process and material flow, *fuels* used, nature and amount and time periods or durations of *emissions* and such other information as may be relevant to the *air pollution* potential of the source. These reports shall also include the results of such source testing as may be required under Section 5-404 herein.

5-403 CIRCUMVENTION

No *person* shall build, erect, install or use any article, machine, equipment or other contrivances, the use of which, without resulting in a reduction in the total release of *air contaminants* to the atmosphere, reduces or conceals an *emission* which otherwise would constitute a violation of these regulations.

5-404 METHODS FOR SAMPLING AND TESTING OF SOURCES

(1) Whenever the *Air Pollution Control Officer* has reason to believe that the *emission* limits of these regulations are being violated by a source, he or she may require the owner or operator of said source to conduct tests to determine the quantity of *particulate* and/or *gaseous matter* being emitted, which tests shall include *stack* tests if circumstances so demand. In the event that *stack* testing is required, the tests shall be performed in accordance with procedures specified in 40 *C.F.R.* Part 60, Appendix A and 40 C.F.R. Part 51, Appendix M or other methods approved by the *Air Pollution Control Officer* and EPA. Testing to determine the quantity of *particulate matter emissions* from cyclones shall be performed by using the high volume sampling method, or an *equivalent method* approved by the *Air Pollution Control Officer* and EPA.

(2) Should the *Air Pollution Control Officer* wish to conduct tests of his or her own to determine compliance with the *emission* limits of these regulations, the owner or operator of the source to be tested shall provide at no expense to the state of Vermont, reasonable and necessary openings in *stacks*, vents and ducts, along with safe and easy access thereto, including a suitable power source to the point of testing.

(3) The *Air Pollution Control Officer* shall be supplied with such data as he or she may require to establish test conditions.

(4) The method, or any conditions associated with the method, of source testing required under this section shall be approved by the *Air Pollution Control Officer* and EPA.

5-405 REQUIRED AIR MONITORING

(1) The *Air Pollution Control Officer* may require the owner or operator of any *air contaminant* source to install, use and maintain such monitoring equipment and records, establish and maintain such records, and make such periodic *emission* reports as the Officer shall prescribe.

(2) The method, or any conditions associated with the method, of air monitoring required under this section shall be approved by the *Air Pollution Control Officer*.

5-406 REQUIRED AIR MODELING

(1) The *Air Pollution Control Officer* may require the owner or operator of any proposed *air contaminant* source subject to review pursuant to Section 5-501 herein to conduct dispersion or other air quality modeling and to submit an *air quality impact evaluation* to demonstrate that operation of the proposed source as described to the *Air Pollution Control Officer* will not directly or indirectly result in a violation of any *ambient air quality standard*, interfere with the attainment of any *ambient air quality standard*, or violate any applicable *prevention of significant deterioration* increment (Table 2).

(2) For proposed *stationary sources*, the appropriate air quality modeling techniques shall be determined on a case-by-case basis in accordance with procedures established in 40 C.F.R. Part 51 Appendix W.

5-407 PREVENTION OF AIR CONTAMINANT EMISSIONS

No person shall willfully, negligently, or through failure to provide necessary equipment or to take necessary precautions, permit any emission of such quantities of air contaminants which will cause, by themselves or in conjunction with other air contaminants, a condition of air pollution.

5-408 CHANGE IN OWNERSHIP OR OPERATIONAL CONTROL

Any person owning, operating or leasing a stationary source for which a permit, certification or any other approval issued by the Secretary is in effect, who transfers responsibility, coverage and liability, shall provide a written notification of said action to the Agency containing the specific date of the transfer of responsibility, coverage, and liability between the current and new owner, operator or lessor. In the case where notification required under the section is in relation to a permit, such notification shall be considered an administrative amendment to the permit.

5-409 FALSE OR MISLEADING INFORMATION

(1) No person shall make any false, inaccurate, incomplete, or misleading statement in any application, record, report, plan, design, statement or document which that person submits to the *Agency*. Any such submission which is false or misleading shall be sufficient grounds for the denial and/or revocation of a permit, certification, registration, or other approval, and may result in a fine and/or imprisonment pursuant to 10 V.S.A. §568.

(2) Any person providing information required to be submitted to the *Agency* shall make the following certification: “I certify that I have personally examined and am familiar with the information submitted herein. Based on information and belief formed after reasonable inquiry, the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.”

SUBCHAPTER V. REVIEW OF NEW AIR CONTAMINANT SOURCES

5-501 REVIEW OF CONSTRUCTION OR MODIFICATION OF AIR CONTAMINANT SOURCES

(1) No *person* shall cause, suffer, allow or permit the new construction, installation or *modification* of any *stationary source* classified as an *air contaminant* source under Section 5-401 herein, unless he or she first submits a complete application to and obtains a permit from the *Secretary*.

(2) A complete application shall contain such plans, specifications, and other information as the *Secretary* deems necessary in order to determine whether the proposed construction, installation or *modification* will comply with these regulations and Vermont statutes at Title 10, chapter 23. Other information may include analyses of the impact on any Class I area, including visibility and any other air quality related value specified by the *Federal Land Manager*, and comments, if any, from the *Federal Land Manager*.

(3) The *Secretary* may require an *applicant* to submit any additional information the *Secretary* considers necessary to make a determination that the application is complete and shall not grant a permit until such information is furnished and evaluated.

(4) The *Secretary* shall issue a permit if the *Secretary* determines that the proposed construction, installation, or *modification* of an air contaminant source will be in compliance with all requirements of these regulations and Vermont statutes at Title 10, chapter 23. If the *Secretary* determines that the proposed construction, installation or *modification* will not be in compliance with all requirements of these regulations and Vermont statutes at Title 10, chapter 23, the *Secretary* shall deny the permit and shall notify the *applicant* in writing of the reasons for the denial.

(5) If *allowable emission* increases of any *air contaminant* from a source subject to this section will cause or contribute to a violation of any *ambient air quality standard* or cause or contribute to a violation of any applicable *prevention of significant deterioration* increment (Table 2), or if such source is located within 10 kilometers of a Class I area and will have an impact on such *Class I area of equal to or greater than 1 ug/m^3 (24-hour average) for any* air contaminant, such *air contaminant* shall be considered *significant* and such source will be treated as a *major stationary source* or a *major modification* for the purposes of its review under these regulations. With regard to a *modification* of a source, the *allowable emission* increases mean the difference between the source's *actual emissions* before the *modification* and its *allowable emissions* after the *modification*.

(6) Within 30 days of receipt of an application for a major stationary source, major *modification*, or other source in the discretion of the *Secretary* that may affect a *Class I area*, the *Secretary* shall notify the *Federal Land Manager*. Such notice shall be provided at least sixty (60) days before holding a public informational meeting.

(7) Upon making a determination to issue a draft permit under this section for a major stationary source, major *modification*, or other source in the discretion of the *Secretary*, opportunity for public participation shall be provided as follows:

(a) The *Secretary* shall give notice to the general public either by publishing a notice in a newspaper having general circulation in the area affected by the subject source or in an electronic state publication designed to give notice to the public.

(b) The content of the notice shall identify:

(i) The name and address of the *air contaminant source* and the *owner/operator*;

(ii) The name and address of the *Secretary* or his/her pertinent designee;

(iii) A brief description of the construction, installation, or *modification* proposed by the application, the preliminary determination, and, if applicable, the degree of increment consumption that is expected;

(iv) The name, mailing address, email address, and telephone number of a *person* from whom interested persons may obtain additional information, including the completed application form, the draft construction permit, the *Agency's* analysis, comments or analyses submitted by a *Federal Land Manager* of the effect of the construction or *modification* on the *ambient air quality*, and all other materials available to the *Secretary* which are relevant to the construction permit application.

(v) A brief description of the comment procedures required by this section; and

(vi) The time and place of any public informational meeting that may be held or a statement of procedures to request such a meeting.

(c) If required by 40 C.F.R. §51.166(q)(2)(iv), the *Secretary* will send a copy of the notice to the *applicant*, the EPA Regional Administrator, and to officials and agencies having cognizance over the location where the proposed construction would occur, including: any other State or local air pollution control agencies, the chief executives of the city or town and county where the source would be located, any comprehensive regional land use planning agency, and any State, Federal Land Manager, or Indian Governing body whose lands may be affected by emissions from the source or *modification*.

(d) Following the notice specified in paragraph (a) of this subsection, the public comment period on a draft construction permit shall be at least thirty (30) days for a *major stationary source*, *major modification*, or other source in the discretion of the *Secretary*.

(e) The *Secretary* will provide opportunity for a public informational meeting regarding the draft construction permit if requested in writing prior to the close of the public comment period. The *Secretary* shall provide timely notice by advertisement in a newspaper having general circulation in the area affected by the subject source or in an electronic state publication designed to give notice to the public.

(f) The *Secretary* will keep a record of the commenters and also of the issues raised during the public comment period and the public informational meeting, if conducted, take into consideration such comments, and make all comments available for public inspection in the same location that the application, draft permit, and other materials relevant to the construction permit application are made available.

(g) At his or her discretion, the *Secretary* may hold any public comment period or public informational meeting pursuant to this section jointly and concurrently with any public comment period or public informational meeting pursuant to Section 5-1007 of the *Air Pollution Control Regulations*.

(8) (a) Upon making a determination to issue a draft permit under this section for an *air contaminant source* that has *allowable emissions* of more than 10 tons per year of all contaminants, excluding *greenhouse gases*, and is not a *major stationary source* or *major modification*, opportunity for public participation shall be provided as set forth in Section 5-501(7) of this subchapter, except that the public comment period on a draft construction permit shall be at least ten (10) days.

(b) Regarding applications for the construction, installation or *modification* of any *air contaminant source* that has *allowable emissions* of less than ten tons per year of all contaminants, excluding *greenhouse gases*, opportunity for public participation may be provided at the discretion of the *Secretary*. In determining whether to provide for such public participation, the *Secretary* shall consider the degree of toxicity of the *air contaminant* and the emission rate, the proximity of the *air contaminant source* to residences, population centers and other sensitive human receptors, and emission dispersion characteristics at or near the source. If the *Secretary* requires such an opportunity for public participation, it will be in such manner as determined in the discretion of the *Secretary*.

(9) Nothing in this section or no action taken under this section shall be construed as relieving any *person* from compliance with any *emission* standard prescribed in these regulations or with any other requirements under local, state, or federal law.

5-502 MAJOR STATIONARY SOURCES AND MAJOR MODIFICATIONS

(1) Applicability

(a) This section applies to all *major stationary sources* and *major modifications* which are constructed subsequent to July 1, 1979 and are subject to review under Section 5-501 herein.

(b) Where a source is constructed or modified in increments:

(i) Which individually are not subject to review under this section,

(ii) Which have not previously been aggregated for purposes of their review under this section, and

(iii) Which are not a part of a program of construction or *modification* in planned incremental phases previously approved by the *Secretary.*

All such increments shall be added together for determining the applicability of this section.

(2) Prohibition

No *person* shall initiate construction of any *major stationary source* or *major modification* until the applicable requirements of this section have been complied with and a permit approving construction has been issued in accordance with Section 5-501 herein.

(3) *Most Stringent Emission Rate*

(a) (i) Each *major stationary source* shall apply control technology adequate to achieve the *most stringent emission rate* with respect to those *air contaminants* for which it would have *significant allowable emissions*.

(ii) Each *major modification* shall apply control technology adequate to achieve the *most stringent emission rate* with respect to any *air contaminant* for which there would be a *significant* increase in *actual emissions* at the source, but only for those proposed physical or operational changes which would contribute to increased *emissions* of the *air contaminant*.

(b) Any source or *modification* subject to this section shall submit information at the time it applies for approval to construct to establish that the *most stringent emission rate* will be achieved.

(4) *Air Quality Impact Evaluation*

(a) A source or *modification* subject to this section with respect to any *air contaminant* other than *greenhouse gases*, shall submit to the *Secretary* an *air quality impact evaluation* at the time it applies for approval to construct under Section 5-501 herein.

(b) Ambient Air Quality Standards review: The evaluation shall demonstrate that the increase in *allowable emissions* will not cause a violation of any applicable *ambient air quality standard* in any

area, and will not significantly contribute to a violation of any applicable *ambient air quality standard* in any area that does not or would not meet the applicable *ambient air quality standard* for the above *air contaminants*. A source or *modification* will be considered to significantly contribute to, a violation of any *ambient air quality standard* for the above *air contaminants* if the increase in the *allowable emissions* from the source or *modification* will cause an increase in ambient concentrations of the above *air contaminants* in any area that does not or would not meet the applicable *ambient air quality standard* in excess of any of the levels of *significant* impact shown in Table 3 herein. If a source or *modification* will significantly contribute to such a violation, the evaluation shall demonstrate that the source or *modification* will comply with the requirements of paragraph (6) herein.

(c) Prevention of Significant Deterioration (PSD) Increment review: The evaluation shall demonstrate that, as of the source's or *modification's* start-up date, the increase in *allowable emissions*, in conjunction with all other applicable *emissions* increases or reductions, will not cause or contribute to any increase in ambient concentrations exceeding the remaining available *prevention of significant deterioration (PSD)* increment for the specified *air contaminants*. The demonstration shall be done in accordance with the relevant definitions and applicable requirements contained in 40 C.F.R. §51.166 as of July 1, 2016.

(d) Sensitive Area review: The evaluation shall demonstrate that the increase in *allowable emissions* will not cause an adverse impact on visibility, or interfere with reasonable progress toward remedying of existing man-made visibility impairment, in any *sensitive area.*

(e) Class I Federal Area review: The evaluation shall demonstrate that the increase in allowable emissions will not cause an adverse impact on visibility or any other Air Quality Related Value in any *Class I Federal area.*

(f) Any *air quality impact evaluation* or modeling required by this section shall be prepared in accordance with procedures acceptable to the *Secretary* and with Section 5-406 of these regulations. The evaluation shall exclude the effect of that portion of the height of any *stack* which exceeds good engineering practice and the effect of any other dispersion technique.

(5) Increment Allocation

(a) The remaining available *PSD* increment, shall be determined in accordance with the relevant definitions and applicable requirements contained in 40 C.F.R. §51.166 as of July 1, 2016.

(b) Once a source has demonstrated that it will comply with the determination made under subsection (5)(a) above, the appropriate portions of the *PSD* increments shall be allocated in accordance

with procedures established by the *Secretary*, which may provide for local or regional participation.

(6) *Emission* Reductions

(a) The *Secretary* shall not issue a permit approving construction of any source or *modification* subject to this section if the source or *modification* is unable to demonstrate, as required under Paragraph (4)(b), that the increase in *allowable emissions* from it will not significantly contribute to a violation of any applicable *ambient air quality standard in a designated nonattainment area* unless, prior to issuance of any such permit:

(i) The source owner or operator secures legally binding offsetting *emission* reductions of said air contaminant, not otherwise to be utilized as part of the State's attainment strategies, from existing sources located in or impacting on the same area (whether or not under the same ownership) such as to provide a net *emission* reduction acceptable to the *Secretary*, and

(ii) The source owner or operator certifies that all existing sources of the source owner located in the State are in compliance with all applicable rules or are meeting all steps of any compliance schedules contained in any administrative orders or court decrees.

(b) Regardless of whether a source or *modification* is subject to the requirements of paragraph (6)(a) of this section, the *Secretary* shall not issue a permit approving construction of any source or *modification* of nitrogen oxides or volatile organic compounds (VOCs) subject to this section and meeting the federal definition of major stationary source or major *modification* contained in 40 C.F.R. §51.165 as applicable to the Ozone Transport Region unless, prior to issuance of such permit, the owner or operator of said source shall:

(i) Secure legally binding offsetting *emission* reductions (not otherwise required by law) of nitrogen oxides or VOCs, as applicable, from existing sources;

(ii) Obtain an offset ratio of a minimum of 1.15:1; and

(iii) Certify that all existing sources of the source owner located in the state are subject to *emissions* limitations and are in compliance, or on an enforceable schedule for compliance with all applicable *emissions* limitations and standards.

(c) Only *emission* reductions that meet the following criteria shall be eligible for use as offsetting *emission* reductions under Section 5-502(6):

(i) Except for ozone precursors, *emission* reductions of a contaminant may only be used to offset *emissions* of the same contaminant. *Emission* reductions of *particulate matter* may

only be used to offset *emissions* of equally or less hazardous forms of *particulate matter*. For the purpose of offsetting ozone precursors, emission reductions for nitrogen oxides or VOCs can be used to offset emissions of each other if approved by the *Secretary* and EPA on a case-by-case basis;

(ii) *Emission* reductions must have occurred after January 1, 1990, or within ten years previous to the date of any application under this section in which the reduction is proposed to be used, whichever is more recent; and

(iii) The emissions reductions must be *emission reductions credits* pursuant to Subsection 5-502(7) or ERCs generated in another state where a reciprocal trading agreement has been established between Vermont and such other state.

(7) *Emission Reduction Credits*

(a) The owner or operator of a source at which a reduction in *emissions* of nitrogen oxides or VOCs has occurred may apply to the *Secretary* for certification of the reduction as an *emission reduction credit* (ERC). Ten percent of all *actual emission* reductions identified by the *owner or operator* for certification will revert to the *Agency* for its use as it sees fit. Once certified by the *Secretary*, an *ERC* may be used to offset increased *emissions* from new or modified sources or for other purposes approved by the *Secretary*.

(b) Only *emission* reductions that meet the following eligibility criteria shall be certified as *ERC's*:

(i) *Emission* reductions may be created by shutdown, curtailment, or over control of emissions beyond an applicable limit, or any other reduction method acceptable to the *Secretary*.

(ii) *Emission* reductions shall be real, surplus, quantifiable, permanent, and state and *federally enforceable*.

(iii) *Emissions* from sources which have been issued permits but never operated, or which have engaged in normal operations for less than one (1) year, shall not be used as offsetting *emission* reductions.

(iv) *Emission* reductions may be certified as ERC's only after the reductions have actually occurred.

(c) An application for certification shall be submitted within 18 months after the *emission* reduction occurs.

(d) In order to confirm *emission* reductions claimed in conjunction with an application for *ERC* certification, the *Secretary* may require the submission of production, *fuel* use or other records or *emissions* testing or the use of continuous *emissions* monitoring or other appropriate means of measurement. The same or an *equivalent method*

of measurement shall be used to quantify *emissions* both before and after the reduction.

(e) Where a reciprocal trading agreement has been established between Vermont and another state, ERCs generated in Vermont may be used in such other state.

(8) *Ambient Air* Quality Monitoring

(a) *A major stationary source* or *major modification* required to submit an *air quality impact evaluation* shall include in such evaluation an analysis of *ambient air* monitoring data for any *attainment areas* impacted by each of the following *air contaminants*;

(i) For the source, each contaminant for which it would have *significant* allowable emissions;

(ii) For the *modification*, each contaminant for which it would result in a *significant* increase in actual emissions.

(b) Ambient monitoring data shall be based on sampling conducted for a time period of at least one year immediately preceding submission of any application for approval to construct such a source or *modification*. Ambient monitoring data collected for a time period of less than one year, but not less than four (4) months, or for a time period other than immediately preceding submission of any such application may be acceptable if such data is adequate for determining whether the *source* or *modification* will cause a violation of any applicable *ambient air quality standard* or consume more than the remaining available *PSD* increment.

(c) Subparagraphs (a) and (b) above shall not apply to any *air contaminant* for which no *ambient air quality standard* has been adopted.

(9) Alternative Site Analysis

Any source or *modification* subject to this section that would be constructed in an area designated as non-attainment for a pollutant for which the source or *modification* is major, and any major source or modification that is major for ozone and/or precursors to ozone, shall conduct an analysis of alternative sites, sizes, production processes and environmental control techniques for such proposed source that demonstrates that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction or *modification*.

5-503 [REPEALED] Repealed eff. February 8, 2011.

5-504 PERMIT FEES

(1) Applicability

(a) Except as provided in 3 V.S.A. §2822(i) and 32 V.S.A. §710, any *person* who is required to obtain a permit from the *Secretary* under

Section 5-501 prior to construction, installation or *modification* of a *stationary source* shall submit permit fees in accordance with this section. Additionally, where a request is made to amend an existing permit or the *Secretary* proposes to amend an existing permit on his or her own motion, permit fees shall be submitted in accordance with this section.

(2) Base Permit Fee

(a) A base permit fee shall be submitted with each application for and each request to amend a permit required by Section 5-501(1) of this subchapter.

(b) The base permit fee shall be determined in accordance with the base fee schedule in 3 V.S.A. §2822(j).

(c) The *Secretary* shall not make a completeness determination under Section 5-501 of this subchapter until the base permit fee is paid in full.

(d) The entire base permit fee shall be nonrefundable.

(3) Supplementary Fee

(a) The *Secretary* shall assess supplementary fee(s) for each stationary source that is not a major stationary source.

(b) Supplementary fee(s) shall be determined in accordance with the supplementary fee schedule in 3 V.S.A. §2822(j).

(c) The *Secretary* shall not issue a permit or grant a permit amendment until all supplementary fees are paid in full.

(d) Once the *Secretary* makes a completeness determination under Section 5-501 of this subchapter, the entire amount of any assessed supplementary fees submitted before or after such determination shall be nonrefundable.

SUBCHAPTER VI. RULES OF PRACTICE GOVERNING HEARINGS UNDER THE AIR POLLUTION CONTROL ACT

[REPEALED, December 15, 2016]

SUBCHAPTER VII. MOTOR VEHICLE EMISSIONS

5-701 MAINTENANCE AND REMOVAL OF CONTROL DEVICES

No *person* shall fail to maintain in good working order or remove, alter or otherwise render inoperative, the exhaust *emission* control system, the evaporative *emission* control system, or any other air pollution control device which has been installed pursuant to Federal or State laws or regulations.

5-702 EXCESSIVE EMISSIONS FROM MOTOR VEHICLES

No *person* shall cause, suffer, allow, or permit excessive *emissions* of *air contaminants*, other than water, from a *motor vehicle*. For the purposes of this section, “excessive” means an increase in emissions caused by:

(1) a violation of section 5-701 of this subchapter;

(2) the installation of a device that bypasses or defeats any emission control system or emissions control system component; or

(3) solid or liquid particles suspended in exhaust gases which obstruct, reflect or refract light and appear grey and/or black in color.

5-703 INSPECTION OF CONTROL DEVICES

No *motor vehicle* shall be issued an inspection sticker unless the *emission control devices* as identified below have been inspected in accordance with the Vermont Periodic Inspection Manual distributed by the Department of Motor Vehicles, according to the following schedule:

(1) Beginning January 1, 1997 and thereafter, for the presence and proper connection of the catalytic converter or converters; and

(2) Beginning January 1, 1998 and thereafter, for the presence of the *fuel* tank pressure-vacuum relief cap or caps; and

(3) Beginning January 1, 1999 and thereafter, for the proper functioning of the on-board diagnostic system.

SUBCHAPTER VIII. REGISTRATION OF AIR CONTAMINANT SOURCES

5-801 DEFINITIONS

"Source" means, for the purposes of this Subchapter only, all stationary structures, facilities, equipment, installations, or operations which emit or may emit any *air contaminant* and which are:

(a) Operated by the same *person* or by *persons* under common control, and

(b) Located on one or more contiguous or adjacent properties where all such property is owned by the same *person* or by *persons* under common control.

"Operator" means, for purposes of this Subchapter only, any *person* operating or responsible for the operation of a *source*. The *person* or *persons* operating the *source* may not necessarily be the same *person* or *persons* who own the property upon which the *source* is located.

5-802 REQUIREMENT OF REGISTRATION

(1) Each *operator* of a *source* which emits five *tons* or more of any and all *air contaminants* per year shall register the *source* with the *Secretary*, and shall renew such registration annually. Each day of operating a *source* which is subject to registration without a valid, current registration shall constitute a separate violation and subject the operator to a civil penalty not to exceed $100.00 per violation.

(2) Each *operator* of a *source* which emits less than five *tons* of any and all *air contaminants* per year shall be subject to the requirement in subsection (1) of this section only if such *source* performs one or more of the following *air contaminant* emitting operations, processes or activities:

(a) Surface coating or finishing operations that apply to use nickel and/or the hexavalent form of chromium, including electroplating, anodizing and spray coating operations;
(b) Concrete Batching Facilities;
(c) Human and animal crematoria;
(d) Dry Cleaning Facilities;
(e) Electric Utility Power Generating Facilities;
(f) Gasoline Storage and Distribution Facilities including Bulk Gasoline Terminals and Bulk Gasoline Plants but not including Gasoline Dispensing Facilities;
(g) Facilities utilizing Halogenated Solvent Cleaning Operations;
(h) Hot Mix Asphalt Facilities, including both portable and stationary Facilities;
(i) Prepared Feeds Manufacturing Facilities that are subject to 40 CFR Part 63 Subpart DDDDDD;
(j) Mineral product crushing operations comprised of any fixed sand and gravel plant or crushed stone plant with a maximum rated capacity of greater than 25 tons per hour, or any portable sand and gravel

plant or crushed stone plant with a maximum rated capacity of greater than 150 tons per hour; and

(k) Facilities utilizing ethylene oxide sterilizer operations.

5-803 REGISTRATION PROCEDURE

(1) On or before February 1 of each year, the *operator* of each *source* subject to registration shall submit to the *Air Pollution Control Officer source emissions* data and any other information required to determine the appropriate registration fee. This data shall be supplied by completion of forms which are available from the *Air Pollution Control Officer*. The forms will not be deemed completed unless and until all information required by the forms has been supplied. The *Air Pollution Control Officer* may require such information to be submitted with respect to any *source* which he or she has reason to believe may be a *source* subject to registration. This subsection is not intended to limit any powers otherwise held by the *Air Pollution Control Officer*.

(2) The *Air Pollution Control Officer* shall determine the registration fee based upon the information required by the preceding subsection, upon other information reasonably required by him or her, and any other relevant information. Upon such determination, the *Air Pollution Control Officer* shall promptly notify each *operator* in writing of the registration fee required, if any.

(3) Any *operator* may request reconsideration of a fee determination within 30 calendar days of receiving notice of such determination. Such request shall be in writing addressed to the *Air Pollution Control Officer* and shall include the operator's own calculation of the fee due along with all supporting documentation. Within 20 calendar days of receipt of such timely written request, the *Air Pollution Control Officer* shall notify the *operator* of the decision.

(4) Any *operator* who chooses to contest the decision of the *Air Pollution Control Officer* described in the preceding subsection may, within 15 calendar days after receipt of such decision, request an administrative conference of the Commissioner of Environmental Conservation. Said conference shall be held as soon as reasonably possible, shall be informal in nature and shall serve as an opportunity for the operator to contest the decision of the *Air Pollution Control Officer* to the Commissioner by presenting *emissions* data and any other relevant information to the Commissioner or his or her representative. Such administrative conference shall not be considered a "contested case" as defined by 3 V.S.A. Ch. 25. The Commissioner shall notify the *operator* of the decision within 30 days of the administrative conference. Should the Commissioner's decision be wholly or partially adverse to the *operator*, such notice shall include an explanation of the grounds for the decision.

(5) Each *operator* from whom a registration fee is due shall pay said fee to the *Air Pollution Control Officer* on or before May 15 of each year. Payment shall be by check or money order made payable to the state of Vermont. If the amount of the fee is at that time the subject of an administrative appeal or judicial review, the fee amount most recently decided or determined by the *Air Pollution Control Officer* or Commissioner of Environmental Conservation is due. No registration will be issued for

those *sources* for which a required registration fee has not been paid in full. If, however, at the conclusion of any and all administrative appeals and judicial review, the fee paid is greater than that which has been determined to be correct, the difference shall be promptly refunded to the operator.

(6) The period of each registration or renewal shall be from the first day of July of each year through the last day of June of the following calendar year.

5-804 COMMENCEMENT OR RECOMMENCEMENT OF OPERATION

A *source* otherwise subject to registration is not required to register for the next period of registration unless it was subject to the requirement of registration under section 5-802 of this subchapter during the calendar year immediately preceding said next period of registration.

5-805 TRANSFER OF OPERATION OR OWNERSHIP

Should the ownership, operation or responsibility for operation of a *source* subject to section 5-802 of this subchapter be transferred, the *source's* registration will, nonetheless, remain valid until the end of the then-current registration period.

5-806 FEES

(1) The registration fee shall be determined in accordance with the fee schedule set forth in 3 V.S.A. §2822.

(2) With respect to the fees for the emission of hazardous air contaminants, the 2007 amendments to Appendix C of these regulations shall not take effect until January 1, 2008.

5-807 DETERMINATION OF FEE

(1) The *Air Pollution Control Officer* shall determine the registration fee, if any, based on calculation of the quantity of *air contaminants* emitted by the *source* during the calendar year immediately preceding the period of registration.

(2) The following techniques, or combinations thereof, are acceptable methods of measuring and calculating *source emissions*. The *Air Pollution Control Officer* will determine which method(s) is (are) most appropriate for each *source*. As applied to most *sources*, the methods listed below are in order of preference, the first listed method being deemed the most reliable and accurate:

(a) *Emission* testing (*stack* testing) of *source*;

(b) *Emission* testing of similar *sources*;

(c) Mass balance calculations, where appropriate;

(d) Use of *emission* factors published by the U.S. Environmental Protection Agency in its Compilation of Air Pollutant Emission Factors (AP-42);

(e) Other methods receiving the prior written approval of the *Air Pollution Control Officer.*

(3) *Emissions* of all *air contaminants* from a *source*, either through *stacks* or from points other than *stacks* (i.e., fugitive *emissions*) shall be added together for purposes of determining the registration fee. Fugitive *emissions* shall be included only when, in the judgment of the *Air Pollution Control Officer*, such *emissions* are reasonably *quantifiable*.

SUBCHAPTER IX. CONTROL OF OZONE-DEPLETING CHEMICALS

5-901 DEFINITIONS

"Ozone Depleting Chemical" means manufactured substances which are known or reasonably may be anticipated to cause or contribute to depletion of ozone in the earth's stratosphere.

(A) Primary ozone depleting chemicals include:

(i) chlorofluorocarbon-11,
(ii) chlorofluorocarbon-12,
(iii) chlorofluorocarbon-113,
(iv) chlorofluorocarbon-114,
(v) chlorofluorocarbon-115,
(vi) halon 1211,
(vii) halon 1301
(viii) halon 2402,
(ix) carbon tetrachloride,
(x) methyl chloroform.

(B) Other ozone depleting chemicals include:

(i) hydrochlorofluorocarbon-22,
(ii) hydrochlorofluorocarbon-123
(iii) hydrochlorofluorocarbon-124,
(iv) hydrochlorofluorocarbon-141b,
(v) hydrochlorofluorocarbon-142b.

(C) The *Secretary* may list by rule other manufactured substances which are known or reasonably may be anticipated to cause or contribute to depletion of stratospheric ozone.

"Fire extinguisher" means a portable device containing chemicals that can be sprayed onto a fire to put it out.

"Halon" means, for the purposes of this subchapter, any bromine containing compound used for fighting fires, including, but not limited to: Halon 1211 (CF_2BrCl), Halon 1301 (CF_3Br) and Halon 2402 ($C_2F_4Br_2$).

"Ozone-depleting products" means any of the following:

(a) Fire extinguishers containing halons; and

(b) Pressurized containers holding *CFC's* and used for cleaning electronic and photographic equipment, propelling plastic party streamers, and operating noise-making horns.

5-911 MOTOR VEHICLE AIR CONDITIONING

(1) After January 1, 1991, no *person*, for compensation, may perform service on *motor vehicle* air conditioners unless that *person* uses equipment that is certified by the *Secretary* as meeting the requirements and specifications of Underwriters Laboratories (UL) standard UL 1963 and the

Society of Automotive Engineers (SAE) standard J1991, or other standards determined by the *Secretary* to be equivalent.

(2) All establishments that repair *motor vehicles* and plan to continue to service *motor vehicle* air conditioners shall purchase refrigerant recovery and recycling equipment according to the following schedule:

(a) By November 1, 1990 all establishments which employ more than 4 mechanics or service personnel on a full time or temporary basis shall purchase certified refrigerant recovery and recycling equipment for use in all service work on *motor vehicle* air conditioning systems;

(b) By January 1, 1991 all other establishments subject to this section shall purchase certified refrigerant recovery and recycling equipment for use in all service work on *motor vehicle* air conditioning systems.

(3) No *person* shall sell or offer for sale any *CFC* coolant in containers with a net weight of less than 15 pounds, unless they bear a warning label indicating the product's danger to the stratospheric ozone layer. The appearance, type size, location and contents of a product's warning label shall conform to any guidelines established by the *Secretary*.

(4) After January 1, 1991, no *person* shall sell or offer for sale any *CFC* coolant suitable for use in *motor vehicle* air conditioners unless for commercial or industrial usage, and unless sold in containers with a net weight of at least 15 pounds.

(5) No *motor vehicle* with a model year of 1995 or later may be registered in the state of Vermont or sold to a consumer or dealer in the state, if it contains air conditioning equipment that uses *CFC's*.

(6) All establishments which repair and service *motor vehicle* air conditioners after January 1, 1991 shall maintain records of the number of *motor vehicle* air conditioners serviced and the quantity of *CFC's* purchased for use in automotive air conditioners. Such records shall be retained for a minimum period of five years from the date of record and shall be made available to representatives of the *Secretary* upon request.

5-921 REGULATION OF OZONE-DEPLETING PRODUCTS

(1) No *person* shall sell or offer for sale *fire extinguishers* containing *halons*, unless for commercial or industrial usage, or unless sold to fire departments for their own use in fighting fires.

(2) Except as provided in subsection (1) of this section, no *person* shall sell or offer for sale *ozone-depleting products* as defined in this subchapter, except for commercial or industrial usage.

SUBCHAPTER X. OPERATING PERMITS

5-1001 PURPOSE AND AUTHORITY

The regulations in this Subchapter X are promulgated with the intention of providing for the establishment of a comprehensive statewide air quality operating permit program consistent with the federal Clean Air Act (42 U.S.C. 7401, et seq.), and Vermont statutes at Title 10, chapter 23.

5-1002 DEFINITIONS

The terms defined in this section shall apply to this subchapter only, and for purposes of this subchapter shall supersede definitions contained in any other regulation or in statutes. The definitions contained in Air Pollution Control Regulations Section 5-101 shall govern in the absence of a superseding definition in this section.

"*Administrative operating permit amendment*" is a permit revision that:

(1) Corrects typographical errors;

(2) Identifies a change in the name, address, or phone number of any *person* identified in the permit, or provides for a similar minor administrative change at the *subject source*;

(3) Requires more frequent monitoring or reporting by the permittee; or,

(4) Allows for a change in ownership or operational control of a *subject source* where the *Secretary* determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the *Secretary*.

"*Administratively complete application*" means a good faith submission to the *Secretary* of all information required by the *Secretary* for *operating permit applications*.

"*Affected States*" means the states contiguous to Vermont, those being New York, New Hampshire and Massachusetts and those States:

(1) Whose air quality may be affected by an *operating permit*, *operating permit amendment*, or *operating permit* renewal that is being proposed; or,

(2) That are within fifty (50) miles of the *stationary source* which is the subject of an *operating permit application*.

"*Applicable requirement*" means all of the following as they apply to *subject sources* including requirements that have been promulgated or approved by *EPA* or the *Agency* through rulemaking including those which have future-effective compliance dates:

(1) Any term or condition of any construction or *modification* permits issued pursuant to 10 V.S.A. §556 or the regulations promulgated thereunder which is pertinent to the continuing operations of the *subject source*;

(2) Any standard or other requirement regarding standards of performance for new *stationary sources* pursuant to section 111 of the federal Clean Air Act and/or regarding hazardous air pollutants pursuant to section 112 of the federal Clean Air Act [42 U.S.C. 7411, 7412];

(3) Any standard or other requirement of the acid rain program under Title IV of the federal Clean Air Act [42 U.S.C. 7651-7651o] or the regulations promulgated thereunder;

(4) Any requirements regarding monitoring or compliance certification pursuant to section 504(b) or section 114(a)(3) of the federal Clean Air Act [42 U.S.C. 7661c(b), 7414(a)(3)];

(5) Any standard or other requirement governing solid waste incineration pursuant to section 129 of the federal Clean Air Act [42 U.S.C. 7429];

(6) Any standard or other requirement pursuant to section 183 of the federal Clean Air Act [42 U.S.C. 7511b];

(7) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the federal Clean Air Act, unless the *EPA* has determined that such requirements need not be contained in an *operating permit* to be in compliance with the federal Clean Air Act. [42 U.S.C. 7671-7671q];

(8) Any standard or requirement contained in an applicable implementation plan approved and/or promulgated pursuant to the federal Clean Air Act [42 U.S.C. 7401, et seq.];

(9) Any standard or other requirement under the *Air Pollution Control Regulations*; and,

(10) Any standard or other requirement of 10 V.S.A. §556a and 3 V.S.A §2822.

"*Draft operating permit*" means the version of a permit for which the *Secretary* offers public participation under Section 5-1007 of this subchapter.

"Emissions allowable under the permit" means a permit term or condition that establishes an emissions limit (including a work practice standard.)

"*Final operating permit*" means the version of an *operating permit* issued by the *Secretary* after the *applicant* has successfully completed all review procedures required by this subchapter.

"*Insignificant Activities*" means any of the following:

(1) Any of the following activities, if the activity supports one or more production processes of the facility and does not itself constitute a facility production process or a part thereof:

(i) Natural gas, propane, and distillate oil space heating/hot water heaters rated at less than 3.0 million British Thermal Units (BTUs) per hour;

(ii) Automotive storage garages and automotive repair shops that perform no autobody repair activities;

(iii) Construction activities excluding fugitive dust;

(iv) Internal combustion engine generator sets rated less than 37 kW (50 hp).

(v) Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis excluding research and development facilities.

(vi) *Emergency use engines*.

(vii) Interior maintenance activities and the equipment and supplies used therein, such as janitorial cleaning products. This subparagraph does not include cleaning of production equipment and products.

(viii) Any other activity determined to be insignificant by the *Secretary* on the basis of the minimal quantity of emissions and impracticality with respect to quantifying emissions provided such determination is consistent with the federal Clean Air Act [42 U.S.C. 7401, et seq.], the Vermont Air Pollution Control Act [10 V.S.A. §551, et seq., as amended] and the regulations promulgated thereunder.

(2) The engine of any *motor vehicle* including, but not limited to, any forklift or tractor.

"*Minor permit amendment*" means an *operating permit amendment* for a change to a subject source or operating permit which:

(1) Does not require or alter an *MSER*, *HMSER*, or source specific *RACT emission* limitation;

(2) Does not involve the construction or *modification* of a stationary source where the proposed construction or *modification* itself will have allowable emissions of ten tons per year or more of all contaminants;

(3) Does not subject the source to a federal requirement under section 111 or 112 of the federal Clean Air Act

(4) Does not subject the source to Title V of the federal Clean Air Act [42 U.S.C. 7661-7661f];

(5) Does not violate an underlying applicable requirement;

(6) Does not involve significant changes to existing monitoring, reporting, or record keeping;

(7) Does not alter or establish an emissions cap for which there is no underlying applicable requirement;

(8) Does not require a significant permit modification; and,

(9) Cannot be accomplished under the Operational Flexibility provisions (Section 5-1014) of this subchapter.

"*Operating permit*" means any permit covering a *subject source* that is issued, renewed, amended, modified, or revised pursuant to this subchapter.

"*Operating permit amendment*" means a revision to an *operating permit*.

"*Operating permit application*" means an application for an initial *operating permit*, an *operating permit* renewal, or an *operating permit amendment*.

"*Proposed operating permit*" means the version of an *operating permit*, developed by the *Secretary* after the close of the public comment period, that the *Secretary* proposes to issue and forwards to the *EPA* for review in accordance with Section 5-1008(b) of this subchapter.

"*Responsible official*" means one of the following:

(1) For a corporation:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other *person* who performs similar policy or decision-making functions for the corporation; or,

(ii) a duly authorized representative of such *person* if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for an *operating permit* or subject to this subchapter and the *Secretary* is notified in writing and approves of the delegation of authority to such representative.

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively; or,

(3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this subchapter, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

"*Subchapter X major source*" means any *stationary source*, which, regardless of whether the emissions are fugitive or emitted via *stack(s)*, has *allowable*

emissions of all *air contaminants* in the aggregate of ten (10) or more tons per year excluding greenhouse gas emissions and emissions resulting from *insignificant activities*.

"*Subject source*" means any *stationary source* subject to the permitting requirements of this subchapter.

"*Title IV affected source*" means a *stationary source* which is subject to emission reduction requirements or limitations under Title IV of the federal Clean Air Act [42 U.S.C. 7651-7651o].

"Title V subject source" means any *stationary source* subject to the permitting requirements of Title V of the federal Clean Air Act [42 U.S.C. 7661-7661f] and the regulations promulgated thereunder.

5-1003 APPLICABILITY

(a) Any *owner/operator* of an *air contaminant* source listed in Air Pollution Control Regulations Section 5-401 is subject to the requirement to secure an *operating permit* under this subchapter if the *stationary source* is:

(1) A *Subchapter X major source*;

(2) A Title V subject source;

(3) A Title IV affected source;

(4) A stationary source subject to Air Pollution Control Regulation Section 5-261, at the discretion of the *Secretary*, upon determining that the toxicity and quantity of hazardous air contaminants emitted may adversely affect susceptible populations; or,

(b) Any *owner/operator* of a *stationary sourc*e category that the *Secretary*, in his/her discretion, exempts by declaratory ruling, so long as such exemption is consistent with Vermont statutes at Title 10, chapter 23 and with the federal Clean Air Act, as amended [42 U.S.C. 7401, et seq.], and the regulations promulgated thereunder, is not subject to the requirement to secure an *operating permit* regarding such *stationary source* under this subchapter.

5-1004 DUTY TO APPLY

For each *subject source*, the *owner/operato*r shall submit a timely and *administratively complete application* and all other information required by the *Secretary* in accordance with this subchapter.

5-1005 TIMELY APPLICATIONS

(a) A *subject source* applying for an *operating permit* for the first time must submit an *administratively complete application* within twelve (12) months after the *subject source* becomes subject to the provisions of this subchapter.

(b) The *owner/operator* of a *subject source* that is required to meet the requirements under section 112(g) of the federal Clean Air Act [42 U.S.C.

7412(g)] or to have a permit under Subchapter V of the *Air Pollution Control Regulations* shall file an *administratively complete operating permit application* within the later of twelve (12) months after the effective date of this subchapter or twelve (12) months after commencing operation. Where an existing *operating permit* would prohibit such construction or change in operation, the *owner/operator* must obtain an *operating permit amendment* before commencing operation. Notwithstanding the preceding two sentences, the *Secretary* may, at his/her discretion, consolidate the application and/or permit for construction or *modification* of a *stationary source* with the application and permit for operation of the *stationary source*.

(c) For purposes of *operating permit* renewal, a timely application is one that is submitted six (6) months prior to the date of *operating permit* expiration.

(d) Applications for initial phase II acid rain permits shall be submitted to the *Secretary* by January 1, 1996 for sulphur dioxide, and by January 1, 1998 for nitrogen oxides.

(e) No *subject source* may operate after the date by which the *owner/operator* is required to submit a timely and *administratively complete application* in accordance with this section, except in compliance with an *operating permit* issued in accordance with this subchapter. Notwithstanding the preceding sentence, if an *owner/operator* submits a timely and *administratively complete application*, the *owner/operator's* failure to have an *operating permit* is not a violation of this subchapter until the *Secretary* takes final action on the application. This protection shall cease to apply if, subsequent to the application being determined or deemed administratively complete pursuant to Section 5-1006 of this subchapter, the *owner/operator* fails to submit any additional information required by the *Secretary* as well as information pertaining to changes to the *subject source* within thirty (30) days or such other period specified in writing by the *Secretary*.

5-1006 COMPLETE APPLICATION

(a) Unless and until the information specified in subsection (e) of this section is provided, an *operating permit application* will not be determined administratively complete, except that applications for *operating permit amendment(s)* need supply such information only if it is related to the proposed change(s).

(b) Unless the *Secretary* determines that an *operating permit application* is not administratively complete, such an application will automatically be deemed administratively complete at the later of sixty (60) days after receipt of the application or sixty (60) days after receipt of information responsive to the *Secretary*'s last request for additional information regarding the application.

(c) If, while processing an *operating permit application* that has been determined or deemed administratively complete, the *Secretary* determines that additional information is necessary to evaluate or take final action on that application, the *owner/operator* shall submit such information in writing within thirty (30) days of notification by the *Secretary* that

such information is necessary or within such other period specified in writing by the *Secretary* as reasonably necessary to provide such information.

(d) Any *owner/operator* who fails to submit any relevant facts or who has submitted incorrect information in an *operating permit application* shall, upon becoming aware of such failure or incorrect submittal, within five (5) working days or within such other period specified in writing by the *Secretary* as reasonably necessary to provide such information, submit such supplementary facts or corrected information. In addition, an *owner/operator* shall provide additional information as necessary to address any requirements that become applicable to the subject source after the date it files an *administratively complete application* but prior to release of a *draft operating permit*.

(e) The *owner/operator* shall complete the forms provided by the *Secretary* for *operating permit applications*. Information as described below for each *process unit* and each *fuel burning equipment* unit at a *subject source* shall be included in the application:

(1) Identifying information, including company name and address (or plant name and address if different from the company name), owner's name and agent, name of other *responsible officials*, and telephone numbers and names of *subject source* site contact *person*(s);

(2) A description of the subject source's processes and products (including Standard Industrial Classification Code) including any associated with each alternative operating scenario identified by the owner/operator;

(3) The following *emission*-related information:

(i) All *emissions* of *air contaminant*s unless resulting from *insignificant activities* or exempted under this subchapter. The *owner/operator* shall provide additional information, as determined by the *Secretary* to be necessary, related to the *emissions* of *air contaminants* to verify which requirements are applicable to the *subject source*;

(ii) Identification and description of all points of air contaminant emissions;

(iii) *Allowable emission* rates in tons per year, and any other unit determined by the *Secretary* to be necessary to establish compliance consistent with the applicable standard reference test method;

(iv) The following information as determined by the *Secretary* to be necessary to determine or regulate *emissions*: *fuels*, *fuel* use, raw materials, production rates, and operating schedules;

(v) Identification and description of *air pollution* control equipment and compliance monitoring devices or activities;

(vi) Identification and description of all *insignificant activities* as defined in this Subchapter;

(vii) A proposed enhanced monitoring protocol if required under Section 114(a)(3) of the federal Clean Air Act [42 U.S.C. 7414(a)(3)] or the regulations promulgated thereunder;

(viii) Limitations on *subject source* operations affecting *emissions* or any work practice standards, where applicable, for all *air contaminants* at a *subject source*;

(ix) Research and development activities and such activities' *emission* amounts;

(x) Other information relating to any *applicable requirement*; and,

(xi) All calculations, data, assumptions and conclusions on which the information in items (i) through (x) of this paragraph, above, are based;

(4) The following *air pollution* control requirements:

(i) Citation and description of all *applicable requirements*; and,

(ii) Description of, or reference to, any applicable test method for determining compliance with each *applicable requirement*;

(5) Other specific information that may be necessary to implement and enforce other *applicable requirements* of this subchapter or to determine the applicability of any such requirement;

(6) An explanation of any proposed exemptions from otherwise *applicable requirements*;

(7) Additional information necessary to define reasonably anticipated alternative operating scenarios or as needed by the *Secretary* to determine the applicability of any other provision of this subchapter;

(8) A compliance plan for all *subject sources* that contains the following:

(i) A description of the compliance status of the subject source with respect to all applicable requirements;

(ii) A description as follows:

(A) For *applicable requirements* with which the *subject source* is in compliance, a statement that the *subject source* will continue to comply with such requirements;

(B) For *applicable requirements* that will become effective during the permit term, a statement that the *subject*

source will meet such requirements on a timely basis; and,

(C) For *applicable requirements* for which the *subject source* is not in compliance at the time of application for an *operating permit*, a narrative description of how the *owner/operator* will achieve compliance with such requirements;

(iii) A schedule of compliance as follows:

(A) For *applicable requirements* with which the *subject source* is in compliance, a statement that the *subject source* will continue to comply with such requirements;

(B) For *applicable requirements* that will become effective during the *operating permit* term, a statement that the *subject source* will meet such requirements on a timely basis. A statement that the *subject source* will meet in a timely manner *applicable requirements* that become effective during the *operating permit* term shall satisfy this provision, unless a more detailed schedule is expressly required by the *applicable requirement*; and,

(C) A *schedule of compliance* for *subject sources* that are not in compliance with all *applicable requirements* at the time of application for an *operating permit*. Such a schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any *applicable requirements* for which the *subject source* will be in noncompliance at the time of application for an *operating permit*. Such compliance schedule shall be at least as stringent as that contained in any judicial consent decree or administrative order to which the *subject source* is subject; and,

(iv) A schedule for submission of certified progress reports no less frequently than every six (6) months for an *owner/operator* required to have a *schedule of compliance* to remedy a violation.

(9) Requirements for compliance certification, including the following:

(i) A certification of compliance with all *applicable requirements* by a *responsible official* consistent with subsection (f) of this section and with section 114(a)(3) of the federal Clean Air Act [42 U.S.C. 7414(a)(3)];

(ii) A statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements and test methods;

(iii) A schedule for submission of compliance certifications during the *operating permit* term, to be submitted no less frequently than annually, or more frequently if specified by the underlying *applicable requirement* or by the *Secretary*;

(iv) A statement indicating the *subject source's* compliance status with any applicable enhanced monitoring and compliance certification requirements of the federal Clean Air Act; and,

(10) Analysis for each *hazardous air contaminant* subject to Section 5-261 of the *Air Pollution Control Regulations* that shall include:

(i) The proposed *Hazardous Most Stringent Emission Rate (HMSER)* emission limit for each *hazardous air contaminant emission* from a *subject source* and all calculations, data, assumptions and conclusions supporting the proposed *HMSER emission* limit;

(ii) An *air quality impact evaluation* if required or a demonstration of compliance with any other requirement of Section 5-261 of the *Air Pollution Control Regulations*; and

(iii) Any other *applicable requirement* under Section 112 of the federal Clean Air Act.

(f) Any application form, report, or compliance certification submitted pursuant to this subchapter shall contain certification of truth, accuracy, and completeness signed by a *responsible official*. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

5-1007 PUBLIC PARTICIPATION

(a) Upon making a determination to issue a draft operating permit for a *Subchapter X major source* or a *Title V subject source*, opportunity for public participation shall be provided as follows:

(1) The *Secretary* shall give notice:

(i) To the general public either by publishing a notice in a newspaper having general circulation in the area affected by the *subject source* or in an electronic state publication designed to give notice to the public; and

(ii) To affected states for *Title V subject sources*.

(2) The content of the notice shall identify:

(i) The name and address of the subject *source* and the *owner/operator*;

(ii) The name and address of the *Secretary* or his/her pertinent designee;

(iii) A brief description of the activity(ies) proposed by the *operating permit application*;

(iv) The *emissions* change proposed in any application for an *operating permit amendment*;

(v) The name, mailing address, email address, and telephone number of a *person* from whom interested *persons* may obtain additional information, including the completed application form, the draft operating permit, the Agency's analysis, and all other materials available to the *Secretary* that are relevant to the operating permit application;

(vi) A brief description of the comment procedures required by this section; and,

(vii) The time and place of any public informational meeting that may be held or a statement of procedures to request such a meeting.

(3) Following the notice specified in paragraph (1) of this subsection (a), the public comment period on a draft permit shall be at least thirty (30) days for a *Title V subject source* and shall otherwise be at least ten (10) days for a *Subchapter X major source*.

(4) The *Secretary* will provide opportunity for a public informational meeting regarding the *draft operating permit* if requested in writing prior to the close of the public comment period, or, in the case of a permit renewal that is not subject to the public notice and comment requirements pursuant to subsection (c) of this section, if requested in writing prior to renewal. Notice shall be given at least thirty (30) days in advance of any such meeting for a *Title V subject source* and shall be given at least fourteen (14) days in advance of any such meeting for a *Subchapter X major source*.

(5) The *Secretary* will keep a record of the commenters and also of the issues raised during the public comment period and the public informational meeting, if conducted.

(b) For *operating permit applications* for all *subject sources* which are neither a *Subchapter X major source* nor *Title V subject source* and for applications for all *administrative* and *minor permit amendments* pursuant to Section 5-1013(a) and (b) of this subchapter, opportunity for public participation may be provided at the discretion of the *Secretary*. In determining whether to provide for such public participation, the *Secretary* shall consider the degree of toxicity of the *air contaminant* and the emission rate, the proximity of the *subject source* to residences, population centers and other sensitive human receptors, and emission dispersion characteristics at or near the *subject source*. If the *Secretary* requires such an opportunity for public participation, it will be in such manner as determined in the discretion of the *Secretary*.

(c) Applications for *operating permit* renewal are subject to the same public participation requirements that apply to initial *operating permit applications*, except that a permit being renewed shall not be subject to

the public notice and comment requirements of subsection (a) of this section if:

(1) The *Secretary* determines that no substantive changes have occurred at the subject *source* that would affect emissions or require changes to the permit;

(2) The *Secretary* determines no new statutory or regulatory requirements need to be added to the permit; and

(3) The subject *source* is not a *Title V subject source*.

(d) At his/her discretion, the *Secretary* may hold any public comment period or public informational meeting pursuant to this section jointly and concurrently with any public comment period or public informational meeting pursuant to Section 5-501 of the *Air Pollution Control Regulations*.

5-1008 SECRETARY'S POWERS AND DUTIES

(a) The *Secretary* may refuse to issue, renew, amend or modify an *operating permit* upon any of the following grounds:

(1) The *owner/operator* fails to submit pertinent and material information requested by the *Secretary*;

(2) There exists at the *subject source* unresolved noncompliance with *applicable requirements* or conditions of an existing permit issued under this Chapter and the *owner/operator* will not undertake a *schedule of compliance* that is acceptable to the *Secretary* to resolve the noncompliance;

(3) An *owner/operator* fails to fully disclose all facts relevant to the *subject source*, or knowingly submits false or misleading information to the *Secretary*; or,

(4) With respect to a *subject source* proposed to be permitted, the *owner/operator* has failed to pay a penalty or other sums owed pursuant to, or has otherwise failed to comply with, a court order, consent decree, stipulation agreement, *schedule of compliance*, or an order issued under Vermont statutes.

(b) For *Title V subject sources*, the *Secretary* will forward the *operating permit application*, *proposed operating permit*, and the legal and factual basis for proposed *operating permit* conditions to *EPA* for review. Within the later of forty five (45) days of its receipt of the *proposed operating permit* or forty-five (45) days of its receipt of Vermont’s notice relating to non-acceptance of *Affected State* comments, *EPA* may object to the issuance of a *final operating permit* if it determines that the issuance of a *final operating permit* will not comply with the requirements of 40 C.F.R. Part 70. This subsection (b) shall not apply to applications for *administrative operating permit amendments*.

(c) Within ninety (90) days of the date of an *EPA* objection to a *proposed operating permit*, the *Secretary* will respond in writing to the objection,

revise the *proposed operating permit* if necessary, and either issue or deny a *final operating permit* in accordance with *EPA*'s objection. For *Title V subject sources*, the *Secretary* shall provide copies of issued *operating permits*, including amended *operating permits*, to *EPA*.

(d) The *Secretary* may issue an *operating permit* to a *subject source* which is not in compliance with *applicable requirements*. Such permit will include an appropriate *schedule of compliance* which is acceptable to the *Secretary*.

(e) (1) For *Title V subject sources*, the *Secretary* shall reopen an *operating permit* and, then, shall reissue, amend, suspend or terminate, as appropriate, the permit when:

(i) There are additional *applicable requirements* with a remaining *operating permit* term of 3 or more years, and shall complete the reopening within eighteen months of the promulgation of the requirement*;*

(ii) There are additional *applicable requirements* for a *Title IV affected source* under the acid rain program*;*

(iii) The *Secretary* or *EPA* determines that the permit contains a material mistake or that inaccurate information was used to establish emissions standards or other terms or conditions of the permit; or

(iv) The *Secretary* or *EPA* determines such action is necessary to assure compliance with *applicable requirements*.

(2) For any *subject source*, the *Secretary* may reopen and, then, reissue, amend, suspend or terminate an *operating permit* for good cause. Good cause includes, but is not limited to, situations where:

(i) there are additional applicable requirements;

(ii) the permit contains a material mistake or that inaccurate information was used to establish emissions standards or other terms or conditions of the permit;

(iii) the subject source has failed to comply with a permit condition; or

(iv) the grounds for refusal to issue, renew or modify an operating permit under subsection (a) of this section exist.

(3) In the event the *Secretary* reopens a permit pursuant to paragraph (e)(1) or (e)(2) of this subsection, the procedures required for initial *operating permit application* and issuance or permit amendments shall apply, except that they shall apply only to those parts of the *operating permit* for which cause to reopen exists. Except in an emergency, the *Secretary* shall provide at least thirty (30) days notice to the *owner/operator*, of the *Secretary*'s intent to reopen. Such procedures need not be followed for suspension, termination, or revocation of a permit.

(f) The *Secretary* may issue a single permit authorizing *emissions* from similar operations by the same *owner/operator* at multiple temporary locations. The operations must be temporary and involve at least one change of location during the term of the permit. Such permits shall require at least ten (10) days notice to the *Secretary* prior to each change in location.

(g) The *Secretary* shall implement the requirements and provisions of Title IV of the federal Clean Air Act [42 U.S.C. 7651-7651o] and the regulations promulgated thereunder. If any provisions or requirements of Title IV of the federal Clean Air Act and the regulations promulgated thereunder conflict with or are not included in this Subchapter, the requirements and provisions of Title IV of the federal Clean Air Act shall apply and take precedence.

5-1009 ACTION ON OPERATING PERMIT APPLICATIONS

(a) An initial *operating permit*, an *operating permit* renewal, or an *operating permit amendment* will be issued only if all of the following conditions have been met:

(1) The *Secretary* has received an *administratively complete application* as described in Section 5-1006 of this subchapter;

(2) The *owner/operator* has provided all additional information requested by the *Secretary* pursuant to Sections 5-1005(e), 5-1006(c), 5-1006(d), and 5-1012(c) of this subchapter;

(3) An opportunity for public participation, if required by Section 5-1007 of this subchapter, is provided; and,

(4) The terms and conditions of the *operating permit*, including any *schedule of compliance*, provide for compliance with all *applicable requirements* and the requirements of this subchapter.

(b) The *Secretary* will take final action on each *operating permit application* within eighteen (18) months after receiving an *administratively complete application*.

5-1010 REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT)

(a) The *owner/operator* of a *Subchapter X major source* shall install, maintain, and use *reasonably available control technology (RACT)* to limit the discharge of *air contaminants* from each *process unit* and each *fuel burning equipment* unit at such *subject source*, if and as required by the conditions of an *operating permit*.

(b) Except as provided in subsection (c) of this section, any *RACT* requirement pursuant to subsection (a) of this section shall be determined by the *Secretary* for each *subject source* or category of *subject sources* after consideration of all available pertinent information. Before final action is taken on an *operating permit application*, the *Secretary* may require the *owner/operator* of a *stationary source* subject to this section to

submit information to the *Secretary* to establish whether *RACT* will be achieved.

(c) Any *RACT* requirement for *VOCs* pursuant to Section 5-253 of this Chapter or nitrogen oxides pursuant to Section 5-251(3), or any *most stringent emission rate (MSER)* requirement to which a *stationary source* is otherwise subject for a *process unit* and/or *fuel burning equipment* unit at the time of application for an *operating permit*, shall be the applicable *RACT* requirement pursuant to subsection (a) of this section for such *process unit* and/or *fuel burning equipment* unit provided that such *MSER* or *RACT* requirement was established less than ten (10) years prior to the *operating permit application* being determined or deemed administratively complete.

5-1011 TERM OF OPERATING PERMIT

Each *operating permit* issued under this subchapter shall be for a fixed term determined by the *Secretary*, not to exceed five (5) years.

5-1012 PERMIT EXPIRATION AND RENEWAL

(a) Each *operating permit*, unless sooner terminated in accordance with Section 5-1008(e), will expire at the end of its term except as provided in subsection (c) of this section.

(b) Applications for *operating permit* renewal are subject to the same requirements, including those for public participation, that apply to initial *operating permit applications*, except as provided under Section 5-1007(c) of this subchapter.

(c) If a timely and *administratively complete application* for *operating permit* renewal is submitted to the *Secretary*, but the *Secretary* has failed to issue or deny such renewal before the end of the term of the previous permit, then the *owner/operator* may continue to operate the *subject source* and all terms and conditions of such previous *operating permit* shall remain in effect until the *Secretary* has issued or denied the *operating permit* renewal. However, such previous *operating permit* shall automatically expire if, subsequent to the application being determined or deemed administratively complete pursuant to Section 5-1006 of this subchapter, the *owner/operator* fails to submit any additional information required by the *Secretary* as well as information pertaining to changes to the *subject source* within thirty (30) days or such other period specified in writing by the *Secretary*.

5-1013 OPERATING PERMIT AMENDMENTS

(a) An *administrative operating permit amendment* may be made by the *Secretary* consistent with the following:

(1) The *Secretary* may incorporate such changes without providing notice to the public or *affected States*.

(2) The *owner/operator* may implement the changes addressed in the request for an *administrative operating permit amendment* immediately upon submittal of the request to the *Secretary*.

Notwithstanding Section 5-1009(b) of this subchapter, the *Secretary* will act on the request within 60 days of its receipt by the *Secretary*. Should the *Secretary* deny the request, the *owner/operator* must take whatever action is necessary to comply with the denial.

(b) The *Secretary* may issue a *minor permit amendment* without providing opportunity for public participation (Section 5-1007) provided the *applicant* submits an *administratively complete application* which includes:

(1) A description of the proposed change, the *emissions* which would result from the proposed change, and any new requirements that will apply if the change occurs;

(2) Citation of all requirements applicable to the *subject source* as a result of the change and a description of how compliance with such requirements can be determined;

(3) Certification by a *responsible official* that the proposed change is eligible to be processed as a *minor permit amendment* in accordance with Section 5-1002 of this subchapter.

(c) Except as provided in (a) and (b) above, the procedure for processing an application for an *operating permit amendment* shall be the same as that used to process an application for an initial *operating permit*. In the case of a *minor permit amendment* for a *Title V subject source*, the *Secretary* shall notify *affected states* and *EPA* upon receipt of an *administratively complete application* and the proposed permit shall be subject to Section 5-1008(b) and (c) of this subchapter.

(d) An *operating permit amendment* for the purposes of the acid rain portion of an *operating permit* shall be subject to regulations promulgated under Title IV of the federal Clean Air Act [42 U.S.C. 7651-7651o].

5-1014 OPERATIONAL FLEXIBILITY

(a) An *owner/operator* may make a change to a permitted *subject source* without securing approval of the *Secretary* or requesting an *operating permit amendment* provided that:

(1) The change does not constitute a *modification* under any provision of the Air Pollution Control Regulations;

(2) The change is not subject to Title IV of the federal Clean Air Act [42 U.S.C. 7651-7651o];

(3) The change does not cause any subject source to exceed the emissions allowable under the operating permit (whether expressed therein as a rate of emissions or in terms of total emissions);

(4) The change meets all applicable requirements and the change does not contravene a permit term and condition for monitoring, record keeping, reporting, or compliance certification;

(5) For the balancing of emissions increases and decreases between emission units at a Title V subject source, all emissions from the change are quantifiable and there are replicable procedures to enforce the emission trades; and,

(6) The owner/operator of the permitted subject source provides the *Secretary* (and the EPA for Title V subject sources) with written notice received at least fifteen (15) days in advance of the proposed change. Such notice shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term that is no longer applicable as a result of the change. The owner/operator shall attach a copy of such written notice to the operating permit.

5-1015 PERMIT CONTENT

(a) Each *operating permit* issued to a *Title V subject source* under this subchapter will include the following elements:

(1) Specified *emission* limitations and standards, including those operational requirements and limitations that assure compliance with all *applicable requirements*;

(2) A reference, but not necessarily all references, of the origin and authority for each term or condition;

(3) Emission monitoring and analysis procedures or test methods required under the *applicable requirements*;

(4) Conditions for record keeping and periodic monitoring as the *Secretary* deems necessary to collect reliable data representative of the *subject source's* compliance with the *operating permit* including the installation, use and maintenance of monitoring equipment;

(5) Reporting requirements requiring, at a minimum, submittal of reports of any required monitoring, certified by a *responsible official* in accordance with Section 5-1006(f) of this subchapter, at least every six (6) months;

(6) Prompt reporting of deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventative measures taken. Prompt shall be defined on a case-by-case basis in each *operating permit*, shall be at least as stringent as is required for permits issued to *Title V subject sources* by *EPA*, and shall be determined in relation to the degree and type of deviation likely to occur and the applicable requirements;

(7) A provision requiring that reports, records of all monitoring data and related information required by the *operating permit* be retained by the *subject source* for at least five (5) years from the date of the monitoring, measurement, or report;

(8) Terms and conditions, including the requirement to maintain records of switches in operating scenario, for reasonably anticipated alternative operating scenarios identified by the *subject source* in its application as approved by the *Secretary*;

(9) Specific designation by the *Secretary* in the Findings of Fact of any operating permit for a *Title V subject source*, of terms and conditions which are not federally enforceable under the Act or under any of its applicable requirements;

(10) Inspection and entry requirements requiring that, upon presentation of credentials, the permittee shall allow an authorized representative of the *Secretary* access, at reasonable times, to all properties covered by the permit and where *emissions* related activity is conducted for the purpose of ascertaining compliance with the permit and *applicable requirements*;

(11) Requirements for submittal of compliance certifications, including, but not limited to, the frequency of submission of compliance certifications;

(12) If necessary, a *schedule of compliance* and requirements for submittal of progress reports;

(13) Provisions indicating that the *Secretary* may reopen an *operating permit* prior to the expiration of the *operating permit* in accordance with Section 5-1008(e); and,

(14) If requested by an *owner/operator* in accordance with the provisions of this subsection, a "permit shield" provision that identifies specific *state* or *federally enforceable* regulations and standards derived therefrom which are not applicable to a source. Enforcement actions based on those identified regulations and standards may not be initiated against the source covered by the shield. However, a Apermit shield@ is not available as part of an *administrative* or *minor permit amendment* and does not apply to changes permitted under Section 5-1014.

(i) Such a shield shall only have legal effect if:

(A) The *Secretary*, in acting on an *operating permit application*, determines in writing which specific *state* or *federally enforceable* regulations and standards derived therefrom are not applicable to the *stationary source* and the *operating permit* contains an express delineation of each such regulation or standard;

(B) The *applicant* includes, in its application, a draft permit shield provision in the form and with the elements specified by the *Secretary*, itemizing each specific *state* or *federally enforceable* regulation or standard derived therefrom which said *applicant* believes is not applicable to such *stationary source*; and,

(C) An *operating permit* expressly states that a "permit shield" exists in accordance with this subsection, otherwise the *operating permit* shall not provide such a shield;

(ii) A permit shield shall not limit the *Secretary's* ability to reopen and/or amend an *operating permit* pursuant to Section 5-1008(e) of this subchapter. Notwithstanding any other provision of this subchapter, the *Secretary* need not receive an *operating permit application* from the *owner/operator* of a *subject source* in order to reopen and/or amend a "permit shield" provision.

(iii) Notwithstanding paragraph (14) of this subsection, the *stationary source* must comply with those *state* or *federally enforceable* regulations and standards that become applicable during the term of the *operating permit*, even if those requirements are not set forth in the *operating permit*.

(iv) Notwithstanding this paragraph (14) of this subsection, an *owner/operator* shall remain liable for any violation of applicable provisions of law that occurred prior to or at the time of issuance of an *operating permit*.

(v) The permit shield shall be void if it is based on or affected by any false, inaccurate, or incomplete information provided by the *applicant*.

(vi) The permit shield shall not limit in any way or prevent the *Secretary* from issuing an emergency administrative order in accordance with 10 V.S.A. §8009 or an emergency order pursuant to 10 V.S.A. §560. The permit shield shall remain in effect with respect to any regulations or standards delineated in the permit shield provision which are not affected by, or the basis for such emergency orders. No emergency administrative order issued to an *owner/operator* which is based on regulations or standards that are delineated in such source's permit shield provision shall contain monetary penalties.

(vii) The permit shield shall not apply to, or affect those provisions of law which implement the requirements and provisions of Title IV of the federal Clean Air Act (42 U.S.C. 7651-7651o) and the regulations promulgated thereunder.

(15) If requested by the *owner/operator*, terms and conditions for the balancing of *emissions* increases and decreases between emission units at a *Title V subject source* for the purpose of complying with a federally enforceable *emissions* cap contained in the *operating permit* if such balancing of emissions is permissible under Section 5-1014;

(16) Such other provisions, consistent with this subchapter, 10 V.S.A. Chapter 23, the federal Clean Air Act [42 U.S.C. 7401, et seq.] and

the regulations promulgated thereunder, as the *Secretary* may incorporate.

(b) For *subject sources* other than *Title V subject sources*, each *operating permit* may include any or all of the elements set forth in subsection (a), above.

5-1016 LIMITING ALLOWABLE EMISSIONS

(a) For any air contaminant source that is not a *Title V subject source* and which is subject to this subchapter solely due to Section 5-1003(a)(1), if the *owner/operator* demonstrates to the satisfaction of the *Secretary* that *actual emissions* of *air contaminants* from the *stationary source* have not equaled or exceeded ten (10) tons in any calendar year commencing January 1, 1995, then the *actual emissions* of such *stationary source* for such calendar year shall be deemed to be the *stationary source's allowable emissions*, notwithstanding Section 5-101 of these regulations. Such *stationary source* need not secure an *operating permit* which would otherwise be required by this subchapter so long as *actual emissions* of *air contaminants* from the *stationary source* are less than ten (10) tons per calendar year.

(b) In order to make such a demonstration to the *Secretary*, the *owner/operator* must submit an annual registration to the *Secretary*, in accordance with the procedures specified in Subchapter VIII of these regulations, certifying that *actual emissions* of *air contaminants* from the *stationary source*, for the preceding year, did not exceed ten (10) tons.

(c) No air contaminant source, which is exempt under this section from the *operating permit* requirement, shall emit ten (10) tons or more of *air contaminants* in a calendar year or violate any provision of this section.

(d) The *owner/operator* of an air contaminant source making an annual certification under this section shall keep and maintain records to determine *actual emissions*. Such records shall include, but not be limited to, *emissions* monitoring, monitoring of *fuel* usage, production rates, hours of operation, product purchases, and any other information that the *Secretary* may require to calculate *actual emissions* from the air contaminant source. Such information shall be summarized in a monthly log, maintained on-site for a minimum of five (5) years from the date of record, and shall be made available to the *Secretary* upon request. Additionally, such *owner/operator* shall consent, in writing, to provide authorized representatives of the *Secretary* with access, at reasonable times, to all properties where *emissions* related activity is conducted for the purpose of verifying the accuracy of such annual certification.

SUBCHAPTER XI. LOW EMISSION VEHICLE PROGRAM

5-1101 DEFINITIONS

The terms defined in this section shall apply to this subchapter only, and for purposes of this subchapter shall supersede definitions contained in any other regulation or in statutes. The definitions contained in *Air Pollution Control Regulations* Section 5-101 shall govern in the absence of a superseding definition in this section.

(a) "*California-certified*" means approved by *CARB* for sale in California.

(b) "*CARB*" means the California Air Resources Board.

(c) "*Dealer*" means any *person* engaged in the business of selling, offering to sell, soliciting or advertising the sale of new *vehicle*s who holds a valid sales and service agreement, franchise or contract, granted by the *manufacturer* or distributor for the retail sale of said *manufacturer's* or distributor's new *vehicle*s.

(d) "*Emergency Vehicle*" means any authorized *vehicle* publicly owned and operated that is used by a peace officer, used for fighting fires or responding to emergency fire calls, used by emergency medical technicians or paramedics, used for towing or servicing other *vehicles*, or used for repairing damaged lighting or electrical equipment.

(e) "*Emission Control Label*" means a paper, plastic, metal or other permanent material, welded, riveted or otherwise permanently attached to an area within the engine compartment (if any), or to the engine, in such a way that it will be visible to the average *person* after installation of the engine in all *new vehicles* certified for sale in California, in accordance with Title 13, California Code of Regulations Section 1965.

(f) *"Environmental Performance Label"* means a paper or plastic decal securely affixed by the manufacturer to a window of all passenger cars, light-duty trucks, and medium-duty passenger vehicles which discloses the global warming and smog score for the vehicle in accordance with Title 13, California Code of Regulations Section 1965.

(g) *"Fleet Average Emission"* means a vehicle manufacturer's average vehicle emissions of all greenhouse gases, non-methane organic gases (NMOG), or NMOG plus oxides of nitrogen (NOx), as applicable, from all *new vehicles* delivered for sale or lease in Vermont in any *model-year*.

(h) "*Greenhouse gas*" means the following gases: carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons.

(i) "*GHG Credit*" means *greenhouse gas* credit.

(j) "*Light-duty Truck*" means any 2000 and subsequent model *vehicle* certified to standards in Title 13, California Code of Regulations Section 1961 (a) (1) rated at 8500 pounds gross *vehicle* weight or less, and any other *vehicle* rated at 6000 pounds gross *vehicle* weight or less, which is designed primarily for purposes of transportation of property or is a

derivative of such a *vehicle*, or is available with special features enabling off-street or off-highway operation and use.

(k) "*Manufacturer*" means any independent low volume, small, intermediate or large volume *vehicle* manufacturer as defined in Title 13, California Code of Regulations Section 1900.

(l) "*Medium-duty passenger vehicle*" means any *medium-duty vehicle* with a gross *vehicle* weight rating of less than 10,000 pounds that is designed primarily for the transportation of persons. The *medium-duty passenger vehicle* definition does not include any *vehicle* which:

(1) Is an "incomplete truck," i.e., a truck that does not have the primary load carrying device or container attached; or

(2) Has a seating capacity of more than 12 *persons*; or

(3) Is designed for more than 9 *persons* in seating rearward of the driver's seat; or

(4) Is equipped with an open cargo area of 72.0 inches in interior length or more.

A covered box not readily accessible from the passenger compartment will be considered an open cargo area, for purposes of this definition.

(m) "*Medium-duty Vehicle*" means any 2000 through 2006 *model-year* heavy-duty low-emission, ultra-low-emission, super-ultra-low-emission or zero-emission *vehicle* certified to the standards in Title 13, California Code of Regulations Sections 1960.1(h) (2), having a *manufacturer's* gross *vehicle* weight rating of 14,000 pounds or less; any 2000 through 2003 *model-year* heavy duty *vehicle* certified to the standards in Title 13, California Code of Regulations Section 1960.1(h)(1) having a *manufacturer's* gross *vehicle* weight rating of 14,000 lbs. or less; and any 2000 and subsequent model heavy-duty low-emission, ultra-low emission, super-ultra-low-emission or zero-emission *vehicle* certified to the standards in Title 13, California Code of Regulations Sections 1961(a)(1), 1962, or 1962.1 having a *manufacturer's* gross vehicle weight rating between 8,501 and 14,000 pounds.

(n) "*Model Year*" means, for each *vehicle manufacturer*, the period which begins January 1 of the calendar year in which the model is first offered for sale and ends December 31 of the final calendar year of sale or, if the *manufacturer* has no annual production period, the calendar year. In case of any *vehicle* manufactured in two or more stages, the time of manufacture shall be the date of completion of the chassis.

(o) "*New Vehicle*" means any *vehicle* with 7,500 miles or fewer on its odometer.

(p) "*NMOG Credit*" means non-methane organic gas credit.

(q) "NMOG + NOx Credit" means non-methane organic gas plus oxides of nitrogen credit.

(r) "*Passenger Car*" means any *vehicle* designed primarily for transportation of *persons* and having a design capacity of twelve *persons* or less.

(s) "*Recall*" means:

(1) The issuing of notices directly to consumers that *vehicles* in their possession or control should be corrected, and/or

(2) Efforts to actively locate and correct *vehicles* in the possession or control of consumers.

(t) "*Smog Index Label*" means a decal securely affixed by the *manufacturer* to a window of all *passenger cars* and *light-duty trucks* which discloses the smog index for the vehicle in accordance with Title 13, California Code of Regulations Section 1965.

(u) "*VECs*" means *vehicle* equivalent credits.

(v) "*Vehicle*" means a *motor vehicle*.

(w) "*ZEV Credit*" means zero emission *vehicle* credit.

5-1102 INCORPORATION BY REFERENCE

(a) This subchapter incorporates by reference certain sections of Title 13, California Code of Regulations. Appendix F lists the sections of Title 13, California Code of Regulations incorporated by reference. The sections of Title 13, California Code of Regulations incorporated by reference in this subchapter are the version of the section adopted as of the incorporation by reference date in Appendix F.

(b) For purposes of applying the incorporated sections of the California Code of Regulations, unless clearly inappropriate, "California" shall mean "Vermont". For example, "delivered for sale in California" and "placed in service" are interpreted, except for determinations of whether a manufacturer is a large, medium, small or independent low volume manufacturer, as referring to *vehicles* in "Vermont".

5-1103 NEW VEHICLE EMISSION REQUIREMENTS

(a) No *person*, including a *manufacturer* or *dealer*, shall deliver for sale or lease, offer for sale or lease, sell or lease, import, acquire, receive, purchase, or rent a *new vehicle* that is a 2000 or subsequent *model-year passenger car* or *light-duty truck* or a 2004 or subsequent *model-year medium-duty vehicle* in Vermont unless the *vehicle* is *California-certified* and complies with the following criteria:

(1) The exhaust emissions standards, as applicable, in Title 13, California Code of Regulations Sections 1956.8(c), (g), or (h), 1960.1, 1961, 1961.1, 1961.2, 1961.3, 1962, 1962.1, or 1962.2, and

(2) The e*mission control label* requirements*, the* s*mog index label* or the *environmental performance label* requirements for 2002 through 2009 *model-year vehicles,* and the *environmental performance label* requirements for 2010 and subsequent *model year vehicles* in

accordance with Title 13, California Code of Regulations Section 1965, except as otherwise provided by 10 V.S.A. §579(d), and

(3) The evaporative emissions standards in Title 13, California Code of Regulations Sections 1976, and

(4) The refueling emissions standards in Title 13, California Code of Regulations Section 1978, and

(5) The malfunction and diagnostic system requirements in Title 13, California Code of Regulations Sections 1968.1 and 1968.2, and

(6) The assembly-line testing procedure requirements in Title 13, California Code of Regulations Section 2062, and

(7) The specifications for fill pipes and openings of *motor vehicle* fuel tanks in Title 13, California Code of Regulations Section 2235.

(b) Subsection 5-1103(a) shall not apply to a *new vehicle*:

(1) Defined as an emergency *vehicle*;

(2) With a right-hand drive configuration that is not available in a California-certified model, purchased by a rural route postal carrier and used primarily for work;

(3) Designed exclusively for off-highway use; or

(4) Certified to standards promulgated pursuant to the authority contained in 42 U.S.C. 7521 and which is in the possession of a *vehicle* rental agency in Vermont and is next rented with a final destination outside of Vermont.

(c) Subsection 5-1103(a) shall not apply to *new vehicles* in the following transactions:

(1) A transfer by court decree;

(2) A transfer by inheritance;

(3) A purchase by a nonresident prior to establishing residency in Vermont; or

(4) A sale for the purpose of being wrecked or dismantled.

5-1104 WARRANTY

(a) For all 2000 and subsequent *model-year California-certified vehicles* delivered for sale or lease in Vermont, each *manufacturer* shall provide a warranty for the ultimate purchaser and each subsequent purchaser that complies with the requirements of Title 13, California Code of Regulations Sections 2035 through 2038, 2040 and 2046.

(b) For 2002 and subsequent *model-years*, each *manufacturer* shall include the emission control system warranty statement required by Title 13,

California Code of Regulations Sections 2039, modified by some means (e.g. printed within the text or a sticker) to clearly inform Vermont owners of *California-certified vehicles* that the California Warranty applies to the *vehicle*. This statement shall provide a telephone number appropriate for Vermont.

5-1105 RECALL

For all 2000 and subsequent *model-year California-certified vehicles* registered in Vermont, each *manufacturer* shall undertake an action equivalent to that which is required by any order or enforcement action taken by *CARB*, or any voluntary or influenced emission related *recall* initiated by any *manufacturer* pursuant to Title 13, California Code of Regulations Sections 2101 through 2120, 2122 through 2133, and 2135 through 2149, unless within 30 days of *CARB* approval of said *recall*, the *manufacturer* demonstrates to the *Agency* that such *recall* is not applicable to *vehicles* registered in Vermont. Each *manufacturer* must send to owners of Vermont registered *California-certified vehicles* the same notice that is used for California owners required by Title 13, California Code of Regulations Sections 2118 or 2127, except that it should contain a telephone number appropriate for Vermont.

5-1106 MANUFACTURER FLEET REQUIREMENTS

(a) Each *manufacturer* shall meet the following fleet requirements for the *new vehicles* delivered for sale or lease in Vermont.

(1) Effective for the 2004 through 2014 *model-years*, each *manufacturer* shall comply with the *fleet average* NMOG emission requirements (or NMOG + NOx for 2014 model year only) and LEV II phase-in requirements for passenger cars and light-duty trucks and, for 2000 and subsequent model-years, may earn and bank *NMOG credits*, both in accordance with Title 13, California Code of Regulations Section 1961, except *NMOG credits* earned prior to model-year 2004 shall be treated as though they were earned in model-year 2004.

(2) Effective for the 2004 through 2014 *model-years*, each *manufacturer* shall comply with the LEV II *medium-duty vehicle* phase-in requirements and, for 2004 through 2014 model-years, may earn and bank VECs, both in accordance with Title 13, California Code of Regulations Section 1961, except VECs earned prior to model-year 2007 shall be treated as though they were earned in model-year 2007. Starting with model-year 2007 through model year 2014, all medium-duty vehicles are subject to the LEV II standards in accordance with Title 13, California Code of Regulations Section 1961.

(3) Effective for the 2015 and subsequent *model-years*, each *manufacturer* shall comply with the *fleet average* NMOG + NOx emission requirements and the LEV III phase-in requirements for passenger cars, light-duty trucks, and medium-duty vehicles, and may earn and bank NMOG + NOx credits or VECs as applicable, all in accordance with Title 13, California Code of Regulations Section 1961.2.

(4) Effective for the 2007 through 2008 model years, each manufacturer shall comply with the Zero Emission Vehicle sales requirement and, starting with 2000 model year *vehicles*, may earn and bank ZEV

credits, both in accordance with Title 13, California Code of Regulations Sections 1962.

(5) Effective for the 2009 through 2017 *model years*, each *manufacturer* shall comply with the Zero Emission Vehicle sales requirement and, and starting with 2000 model year *vehicles*, may earn and bank ZEV credits, both in accordance with Title 13, California Code of Regulations Section 1962.1.

(6) Effective for 2018 and subsequent model years, each manufacturer shall comply with the Zero Emission Vehicle sales requirement and, and starting with 2000 model year *vehicles*, may earn and bank ZEV credits, both in accordance with Title 13, California Code of Regulations Section 1962.2.

(7) Effective for the 2009 through 2016 model-years, each manufacturer shall comply with the fleet average emission greenhouse gas requirements for passenger cars, light-duty trucks, and medium-duty passenger *vehicles*, and for 2000 and subsequent model-years may earn and bank GHG credits, in accordance with Title 13, California Code of Regulations Section 1961.1.

(8) Effective for the 2017 and subsequent model years, each manufacturer shall comply with the fleet average emission greenhouse gas requirements for passenger cars, light-duty trucks, and medium-duty passenger *vehicles*, and may earn and bank GHG credits, in accordance with Title 13, California Code of Regulations Section and 1961.3.

5-1107 MANUFACTURER REPORTING REQUIREMENTS

(a) Delivery Reporting.

Commencing with the 1999 *model-year* for *passenger cars* and *light-duty trucks* and the 2000 *model-year* for *medium-duty vehicles*, each *manufacturer* shall submit annually, to the *Agency*, by March 1 following the end of each *model-year*, a report, itemized by test group and emission standard, documenting total *new vehicles* delivered for sale or lease in Vermont.

(b) Fleet Reporting.

(1) Each *manufacturer* shall submit annually to the *Agency*, by no later than May 1 following the end of each *model-year*, a report, itemized by test group and emission standard, that demonstrates that the *manufacturer* has met the fleet requirements of subsection 5-1106(a) in Vermont.

(2) If a *manufacturer* wants to bank *VECs* or GHG, NMOG, NMOG + NOx, or ZEV *credits*, the *manufacturer* shall submit annually, by no later than May 1 following the end of the *model-year*, a report which demonstrates that such *manufacturer* has earned *VECs* or GHG, NMOG, or ZEV *credits* in Vermont. Credits are to be calculated in the same manner as required by CARB.

(c) Recall Reporting.

(1) For information and not for approval by Vermont, for 2000 and subsequent *model-year vehicles*, each *manufacturer* shall submit, within 30 days of *CARB* approval, a copy of any *CARB* approved voluntary, influenced or ordered *recall* plan specified by Title 13, California Code of Regulations Sections 2114 and 2125, supplemented with the number of affected *vehicles* registered in Vermont.

(2) For information and not for approval by Vermont, each *manufacturer* shall, upon request, submit *recall* campaign progress reports for *vehicles* registered in Vermont, within the timelines of, and containing the information required by, Title 13, California Code of Regulations Sections 2119 and 2133. Reports need not be submitted to the *Agency* if the equivalent reports have been waived by *CARB*.

(d) Documentation.

A *manufacturer*, a *dealer* or a transporter of *new vehicles* shall, upon request, provide to the Agency of Natural Resources or the Agency of Transportation any documentation which either Agency determines to be necessary for the effective administration and enforcement of this subchapter.

(e) Reports and other information required by this subsection must be submitted to:

Director, Air Quality and Climate Division
Davis 2
One National Life Drive
Montpelier, VT 05620-3802.

5-1108 INSPECTIONS

(a) The Secretary of the Agency of Natural Resources or the Secretary of the Agency of Transportation or their designees may conduct inspections of any new and used *vehicles* and any related documentation for the purpose of determining compliance with the requirements of this subchapter.

(1) Inspections may be conducted on any conveyance used to transport *new vehicles* or on any premises owned or controlled by any *dealer or manufacturer.*

(2) Inspections may extend to all emission-related parts and may require the on-premises operation and testing of an engine or *vehicle*.

(3) Inspections may include functional tests and other tests as necessary to verify compliance with this subchapter.

(b) Upon request, during an inspection, such *dealer* or *manufacturer* must make available to either Agency any related records, including records documenting *vehicle* origin, certification, delivery, or sales and records of *emission* related part repairs performed under warranty.

5-1109 SEVERABILITY

Each provision of this Subchapter is severable, and in the event that any provision of this Subchapter is held to be invalid, the remainder of the Subchapter shall continue in full force and effect.

APPENDICES AND TABLES

APPENDIX A
RULES OF EVIDENCE, OFFICIAL NOTICE

(1) Irrelevant, immaterial, or unduly repetitious evidence shall be excluded. The rules of evidence as applied in civil cases in the superior courts of this state shall be followed. When necessary to ascertain facts not reasonably susceptible of proof under those rules, evidence not admissible thereunder may be admitted (except where precluded by statute) if it is of a type commonly relied upon by reasonably prudent men in the conduct of their affairs. Agencies shall give effect to the rules of privilege recognized by law. Objections to evidentiary offers may be made and shall be noted in the record. Subject to these requirements, when a hearing will be expedited and the interests of the parties will not be prejudiced substantially, any part of the evidence may be received in written form;

(2) Documentary evidence may be received in the form of copies or excerpts, if the original is not readily available. Upon request, parties shall be given an opportunity to compare the copy with the original;

(3) A *party* may conduct cross-examinations required for a full and true disclosure of the facts;

(4) Notice may be taken of judicially cognizable facts. In addition, notice may be taken of generally recognized technical or scientific facts within the *Agency's* specialized knowledge. Parties shall be notified either before or during the hearing, or by reference in preliminary reports or otherwise, of the material noticed, including any staff memoranda or data, and they shall be afforded an opportunity to contest the material so noticed. The *Agency's* experience, technical competence, and specialized knowledge may be utilized in the evaluation of the evidence.

APPENDIX B
HAZARDOUS AIR CONTAMINANTS

CONTAMINANT	CAS RN
Acetaldehyde	75-07-0
Acetamide	60-35-5
Acetic acid	64-19-7
Acetic anhydride	108-24-7
Acetone	67-64-1
Acetonitrile	75-05-8
Acetophenone	98-86-2
2-Acetylaminofluorene	53-96-3
Acrolein	107-02-8
Acrylamide	79-06-1
Acrylic acid	79-10-7
Acrylonitrile	107-13-1
Allyl chloride	107-05-1
4-Aminobiphenyl	92-67-1
2-Amino-2-methyl-1-propanol	124-68-5
Ammonia	7664-41-7
Ammonium sulfamate	7773-06-0
n-Amyl acetate	628-63-7
s-Amyl acetate	626-38-0
Aniline	62-53-3
o-Anisidine	90-04-0
Antimony compounds	0
Antimony trioxide	1309-64-4
Arsenic compounds (inorganic including arsine)	0
Arsine	7784-42-1
Asbestos	1332-21-4
Barium compounds	0
Benzene	71-43-2
1,2-Benzenedicarboxylic acid	88-99-3
Benzidine	92-87-5
Benzo-a-pyrene	50-32-8
Benzotrichloride	98-07-7
Benzyl alcohol	100-51-6
Benzyl chloride	100-44-7
Beryllium compounds	0
Biphenyl	92-52-4
Bis(chloromethyl)ether	542-88-1
Bis(2-ethylhexy)phthalate (DEHP)	117-81-7

CONTAMINANT	CAS RN
Bisphenol A epichlorohydrin	25068-38-6
Bisphenol A resin	80-05-7
Bromodichloromethane	75-27-4
Bromoform	75-25-2
1,3-Butadiene	106-99-0
2-Butoxyethanol	111-76-2
2-(2-Butoxyethoxy)-ethanol	112-34-5
Butoxyethyl acetate	112-07-2
n-Butyl acetate	123-86-4
s-Butyl acetate	105-46-4
t-Butyl acetate	540-88-5
n-Butyl alcohol	71-36-3
s-Butyl alcohol	78-92-2
t-Butyl alcohol	75-65-0
Butylamine	109-73-9
Butyl propasol	5131-66-8
para-tert-Butyltoluene	98-51-1
1,4-Butynediol	110-65-6
4-Butyrolactone	96-48-0
Cadmium compounds	0
Calcium cyanamide	156-62-7
Calcium oxide	1305-78-8
Caprolactam	105-60-2
Captan	133-06-2
Carbaryl	63-25-2
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Carbonyl sulfide	463-58-1
Catechol	120-80-9
Chloramben	133-90-4
Chlordane	57-74-9
Chlorine	7782-50-5
Chlorine dioxide	10049-04-4
Chloroacetic acid	79-11-8
2-Chloroacetophenone	532-27-4
Chlorobenzene	108-90-7
Chlorobenzilate	510-15-6
Chlorodibenzodioxins/chlorodibenzofurans	1746-01-6
2-Chloroethyl vinyl ether	110-75-8
Chloroform	67-66-3

CONTAMINANT	CAS RN
Chloromethyl methyl ether	107-30-2
Chloroprene	126-99-8
Chromium compounds, except for Cr (VI) compounds	0
Chromium (VI) compounds	0
Cobalt compounds	0
Coke Oven Emissions	0
Copper (dusts and mists)	0
Cresols/Cresylic acid (isomers and mixture)	1319-77-3
m-Cresol	108-39-4
o-Cresol	95-48-7
p-Cresol	106-44-5
Cumene	98-82-8
Cyanide compounds	0
Cyclohexane	110-82-7
Cyclohexanol	108-93-0
Cyclohexanone	108-94-1
Cyclohexene	110-83-8
Cyclohexlyamine	108-91-8
2,4-D, salts and esters	94-75-7
DDE	3547-04-4
Decaborane	17702-41-9
Decane	124-18-5
Diacetone alcohol	123-42-2
Diazomethane	334-88-3
Dibenzofurans	132-64-9
Dibenzoyl peroxide	94-36-0
Dibromochloromethane	124-48-1
1,2-Dibromo-3-chloropropane	96-12-8
Dibutyl phthalate	84-74-2
o-Dichlorobenzene	95-50-1
p-Dichlorobenzene	106-46-7
3,3-Dichlorobenzidene	91-94-1
Dichlorodifluoromethane	75-71-8
1,1-Dichloroethane	75-34-3
trans-1,2-Dichloroethylene	156-60-5
Dichloroethyl ether	111-44-4
1,3-Dichloropropane	542-75-6
s-Dichlorotetrafluoroethane	76-14-2
Dichlorvos	62-73-7
Diethanolamine	111-42-2

CONTAMINANT	CAS RN
Diethylamine	109-89-7
Diethylaminoethanol	100-37-8
n,n-Diethyl aniline (n,n-Dimethyl aniline)	121-69-7
Diethylene glycol ethyl ether	111-90-0
Diethyl sulfate	64-67-5
3,3-Dimethoxybenzidine	119-90-4
Dimethoxyethane	110-71-4
Dimethoxymethane	109-87-5
Dimethylamine	124-40-3
Dimethyl aminoazobenzene	60-11-7
Dimethyl ammonium chloride	506-59-2
3,3-Dimethyl benzidine	119-93-7
Dimethyl carbamoyl chloride	79-44-7
n,n-Dimethyl dodecylamine	112-18-5
Dimethylethanolamine	108-01-0
Dimethyl formamide	68-12-2
2,6-Dimethyl-4-heptanone	108-83-8
1,1-Dimethyl hydrazine	57-14-7
n,n-Dimethyl octadecylamine	124-28-7
Dimethylphthalate	131-11-3
Dimethyl sulfate	77-78-1
4,6-Dinitro-o-cresol, and salts	534-52-1
2,4-Dinitrophenol	51-28-5
2,4-Dinitrotoluene	121-14-2
Dioxane	123-91-1
1,3-Dioxolane	646-06-0
1,2-Diphenylhydrazine	122-66-7
Diphenylmethane diisocyanate (Methylene bisphenyl isocyanate)	101-68-8
Dipropylene glycol	110-98-5
Dipropylene glycol methyl ether	34590-94-8
Dodecylguanidine hydrochloride	13590-97-1
Doxorubicin	23214-92-8
Epichlorohydrin	106-89-8
1,2-Epoxybutane	106-88-7
Ethanolamine	141-43-5
2-Ethoxyethanol	110-80-5
2-Ethoxyethyl acetate	111-15-9
Ethyl acetate	141-78-6
Ethyl acrylate	140-88-5
Ethyl alcohol	64-17-5

CONTAMINANT	CAS RN
Ethylamine	75-04-7
Ethyl benzene	100-41-4
Ethyl bromide	74-96-4
Ethyl butyl ketone	106-35-4
Ethyl carbamate (Urethane)	51-79-6
Ethyl chloride (Chloroethane)	75-00-3
Ethylene diamine	107-15-3
Ethylene dibromide	106-93-4
Ethylene dichloride (1,2-dichloroethane)	107-06-2
Ethylene glycol	107-21-1
Ethylene imine (Aziridine)	151-56-4
Ethylene oxide	75-21-8
Ethylene thiourea	96-45-7
Ethyl ether	60-29-7
Ethyl 3-ethoxypropionate	763-69-9
2-Ethylhexanol	104-76-7
2-Ethylhexyl ester acrylic acid	103-11-7
Ethyl mercaptan	75-08-1
Fine mineral fibers[1]	0
Fluoranthene	206-44-0
Fluoride compounds, inorganic	0
Fluorine	7782-41-4
Formaldehyde	50-00-0
Formic acid	64-18-6
Furfural	98-01-1
Glutaraldehyde	111-30-8
Glycol ethers	0
Glyoxal	107-22-2
Heptachlor	76-44-8
Heptane	142-82-5
Hexachlorobenzene	118-74-1
Hexachlorobutadiene	87-68-3
Hexachlorocyclopentadiene	77-47-4
Hexachloroethane	67-72-1
Hexamethylene-1,6-diisocyanate	822-06-0
Hexamethylphosphoramide	680-31-9
n-Hexane	110-54-3
Hydrazine	302-01-2
Hydrogen chloride	7647-01-0
Hydrogen fluoride	7664-39-3

CONTAMINANT	CAS RN
Hydrogen peroxide	7722-84-1
Hydrogen sulfide	7783-06-4
Hydroquinone	123-31-9
Iodine	7553-56-2
Iron oxides, dust and fume	0
Isoamyl acetate	123-92-2
Isoamyl alcohol	123-51-3
Isobutyl acetate	110-19-0
Isobutyl alcohol	78-83-1
Isobutyl ester isobutyric acid	97-85-8
Isophorone	78-59-1
Isopropyl acetate	108-21-4
Isopropyl alcohol	67-63-0
Isopropylamine	75-31-0
Isopropyl ether	108-20-3
Kerosene	8008-20-6
Lead compounds	0
Lindane (all isomers)	58-89-9
Maleic anhydride	108-31-6
Manganese compounds	0
Mercury compounds	0
Mercury, alkyl compounds	0
Methoxychlor	72-43-5
2-Methoxyethanol	109-86-4
Methoxyethoxyethanol	111-77-3
o-Methoxyphenol	90-05-1
1-Methoxy-2-propanol	107-98-2
Methyl acetate	79-20-9
Methyl alcohol	67-56-1
Methylamine	74-89-5
p-Methylaminophenol sulfate	55-55-0
Methyl amyl ketone (2-heptanone)	110-43-0
Methyl bromide	74-83-9
Methyl tert butyl ether	1634-04-4
Methyl chloride	74-87-3
Methylcyclohexanol	25639-42-3
4,4-Methylene bis (2-chloroaniline)	101-14-4
Methylene chloride	75-09-2
4,4-Methylenedianiline	101-77-9
Methyl ester salicylic acid	0

CONTAMINANT	CAS RN
Methyl ethyl ketone	78-93-3
Methyl ethyl ketone peroxide	1338-23-4
Methyl hydrazine	60-34-4
Methyl iodide	74-88-4
Methyl isoamyl ketone	110-12-3
Methyl isobutyl ketone	108-10-1
Methyl isocyanate	624-83-9
Methyl methacrylate	80-62-6
3-Methyl-2-oxazolidone	19836-78-3
1-Methyl-2-pyrrolidone	872-50-4
Mineral spirits	8030-30-6
Molybdenum compounds- metal & insoluble	0
Molybdenum compounds- soluble	0
Morpholine	110-91-8
Naphthalene	91-20-3
Nickel carbonyl	13463-39-3
Nickel compounds	0
Nitric acid	7697-37-2
Nitric oxide	10102-43-9
Nitrobenzene	98-95-3
4-Nitrobiphenyl	92-93-3
p-Nitrochlorobenzene	100-00-5
Nitroethane	79-24-3
Nitromethane	75-52-5
4-Nitrophenol	100-02-7
1-Nitropropane	108-03-2
2-Nitropropane	79-46-9
n-Nitrosodimethylamine	62-75-9
n-Nitroso-n-methylurea	684-93-5
n-Nitrosomorpholine	59-89-2
Octachloronaphthalene	2234-13-1
Oxalic acid	144-62-7
Parathion	56-38-2
Pentachloronaphthalene	1321-64-8
Pentachloronitrobenzene (Quintobenzene)	82-68-8
Pentachlorophenol	87-86-5
1-Pentanol (Amyl alcohol)	71-41-0
2-Pentanone	107-87-9
Perchloric acid	7601-90-3
Phenanthrene	85-01-8

CONTAMINANT	CAS RN
Phenol	108-95-2
Phenoxyethanol	122-99-6
p-Phenylenediamine	106-50-3
Phenyl ether	101-84-8
1-Phenyl-3-pyrazolidone	92-43-3
Phosgene	75-44-5
Phosphine	7803-51-2
Phosphoric acid	7664-38-2
Phosphorus	7723-14-0
Phosphorus pentachloride	10026-13-8
Phosphorus pentasulfide	1314-80-3
Phosphorus trichloride	7719-12-2
Phthalic anhydride	85-44-9
Picric acid	88-89-1
Platinum compounds, metal	0
Platinum, soluble salts	0
Polychlorinated biphenyls (Aroclors)	1336-36-3
Polycylic Organic Matter[2]	0
Potassium hydroxide	1310-58-3
1,2-Propanediol	57-55-6
1,3-Propane sultone	1120-71-4
beta-Propiolactone	57-57-8
Propionaldehyde	123-38-6
Propoxur (Baygon)	114-26-1
2-Propoxyethanol	2807-30-9
Propoxypropanol	1569-01-3
n-Propyl acetate	109-60-4
n-Propyl alcohol	71-23-8
1,2-Propylene carbonate	108-32-7
Propylene dichloride	78-87-5
Propyleneimine	75-55-8
Propylene oxide	75-56-9
Pyrene	129-00-0
Pyridine	110-86-1
Quinoline	91-22-5
Quinone	106-51-4
Sebacic Acid	111-20-6
Selenium compounds	0
Silica, amorphous (<1% quartz)	61790-53-2
Silica, crystalline	14808-60-7

CONTAMINANT	CAS RN
Silica, fused	60676-86-0
Silicon tetrahydride	7803-62-5
Silver compounds- metal	0
Silver compounds- soluble	0
Sodium bromide	7647-15-6
Sodium hydroxide	1310-73-2
Sodium tripolyphosphate	7758-29-4
Stoddard solvent	8052-41-3
Styrene monomer	100-42-5
Styrene oxide	96-09-3
Sulfuric acid mist	7664-93-9
Sulfur monochloride	10025-67-9
Tellurium compounds	0
1,1,2,2-Tetrachloro-1,2-difluoroethane (Freon-112)	76-12-0
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethylene	127-18-4
Tetrachloronaphthalene	1335-88-2
Tetrahydrofuran	109-99-9
Texanol	25265-77-4
Tin compounds- metal and inorganic	0
Tin compounds-organic	0
Titanium dioxide	13463-67-7
Titanium tetrachloride	7550-45-0
Toluene	108-88-3
2,4-Toluene diamine	95-80-7
Toluene-2,4-diisocyanate/toluene, 2,6-diisocyanate	584-84-9
p-Toluenesulfonic acid	104-15-4
o-Toluidine	95-53-4
Toxaphene (chlorinated camphene)	8001-35-2
1,2,4-Trichlorobenzene	120-82-1
1,1,1-Trichloroethane (methyl chloroform)	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethylene	79-01-6
Trichlorofluoromethane (Freon-11)	75-69-4
Trichloronaphthalene	1321-65-9
2,4,5-Trichlorophenol	95-95-4
2,4,6-Trichlorophenol	88-06-2
1,2,3-Trichloropropane	96-18-4
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	76-13-1
2,4,6-Tri(dimethyl aminomethyl) phenol	90-72-2

CONTAMINANT	CAS RN
Triethanoalmine	102-71-6
Triethylamine	121-44-8
Triethyl ester phosphoric acid	78-40-0
Triethylenetetramine	112-24-3
Triethyl orthoformate	122-51-0
Trifluorobromomethane	75-63-8
Trifluralin	1582-09-8
Trimethyl benzene (including mixed isomers)	25551-13-7
1,2,4-Trimethyl benzene	95-63-6
s,s,s-Trimethyl ester phosphorotrithioic acid	150-50-5
2,2,4-Trimethylpentane	540-84-1
Triorthocresyl phosphate	78-30-8
Turpentine	8006-64-2
4-Undecanol, 7-ethyl-2-methyl hydrogen sulfate	139-88-8
Vanadium pentoxide	0
Vinyl acetate	108-05-4
Vinyl bromide	593-60-2
Vinyl chloride	75-01-4
Vinylidene chloride (1,1-Dichloroethylene)	75-35-4
Vinyl toluene	25013-15-4
VM & P naphtha	8032-32-4
Xylene	1330-20-7
m-Xylenes	108-38-3
o-xylenes	95-47-6
p-xylenes	106-42-3
Zinc chloride	7646-85-7
Zinc oxide	0
[1] Includes mineral fiber emissions from facilities manufacturing or processing glass, rock or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.	
[2] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.	

APPENDIX C
HAZARDOUS AMBIENT AIR STANDARDS

CATEGORY I

Hazardous Air Contaminants Known or Suspected To Cause Carcinogenicity

Contaminant	**CAS RN**	**Hazardous Ambient Air Standard And Stationary Source Hazardous Air Impact Standard (Annual Average)** (µg/m3)	**Action Level** (lbs/8 hr)
Acetaldehyde	75-07-0	0.46	0.038
Acrylamide	79-06-1	0.00076	0.000063
Acrylonitrile	107-13-1	0.015	0.0012
Allyl chloride	107-05-1	0.1	0.008
Aniline	62-53-3	0.61	0.051
Antimony trioxide	1309-64-4	0.02	0.002
Arsenic compounds, total	0	0.00023	0.000019
Arsine	7784-42-1	0.005	0.0004
Asbestos, all forms	1332-21-4	0.00012	0.000010
Benzene	71-43-2	0.13	0.011
Benzidine	92-87-5	0.000015	0.0000012
Benzo-a-pyrene	50-32-8	0.00048	0.000040
Beryllium compounds	7440-41-7	0.00042	0.000035
Biphenyl	92-52-4	0.0018	0.00015
Bromodichloromethane	75-27-4	0.056	0.0046
Bromoform	75-25-2	0.90	0.074
1,3-Butadiene	106-99-0	0.033	0.0027
2-Butoxyethanol	111-76-2	1,300	107.9
Butoxyethyl acetate	112-07-2	1,300	107.9
Cadmium compounds	7440-43-9	0.00056	0.000046
Carbon tetrachloride	56-23-5	0.066	0.0055
Chlorodibenzodioxins/ chlorodibenzofurans	1746-01-6	2.33E-08	1.93E-09
Chloroform	67-66-3	0.043	0.0036
Chloroprene	126-99-8	0.7	0.06
Chromium (VI) Compounds	0	0.000083	0.0000069
Cobalt compounds	0	0.01	0.00083
Dibromochloromethane	124-48-1	0.042	0.0035
1,1-Dichloroethane	75-34-3	50	4.2
Dichloroethyl ether	111-44-4	0.0029	0.00024
Dimethyl sulfate	77-78-1	0.01	0.00083
2,4-Dinitrotoluene	121-14-2	0.0051	0.00042
Dioxane	123-91-1	0.32	0.027
Doxorubicin	23214-92-8	0.01	0.00083
Epichlorohydrin	106-89-8	0.83	0.069

Contaminant	CAS RN	Hazardous Ambient Air Standard And Stationary Source Hazardous Air Impact Standard (Annual Average) (µg/m3)	Action Level (lbs/8 hr)
1,2-Epoxybutane	106-88-7	2.0	0.17
Ethyl benzene	100-41-4	100	8.30
Ethyl bromide	74-96-4	0.01	0.00083
Ethylene dibromide	106-93-4	0.0045	0.00037
Ethylene dichloride (1,2-dichloroethane)	107-06-2	0.038	0.0032
Ethylene oxide	75-21-8	0.01	0.00083
Formaldehyde	50-00-0	0.078	0.0065
Furfural	98-01-1	0.01	0.00083
Hexachlorobenzene	118-74-1	0.0022	0.00018
Hexachlorobutadiene	87-68-3	0.045	0.0037
Hexachloroethane	67-72-1	0.25	0.021
Hydroquinone	123-31-9	0.01	0.00083
Isophorone	78-59-1	70.7	5.87
Lead compounds	0	0.01	0.00083
Methylene chloride	75-09-2	2.1	0.17
Naphthalene	91-20-3	0.3	0.02
Nickel carbonyl	13463-39-3	0.01	0.00083
Nickel compounds	0	0.0021	0.00017
Nitrobenzene	98-95-3	0.15	0.012
Nitromethane	75-52-5	0.01	0.00083
2-Nitropropane	79-46-9	0.00037	0.000031
Pentachlorophenol	87-86-5	0.029	0.0024
Polychlorinated biphenyls	1336-36-3	0.0018	0.00015
Propylene dichloride	78-87-5	0.051	0.0042
Propylene imine	75-55-8	0.01	0.00083
Propylene oxide	75-56-9	0.27	0.022
Pyridine	110-86-1	0.01	0.00083
Styrene monomer	100-42-5	100	8.30
Sulfuric acid mist	7664-93-9	0.33	0.027
1,1,2,2-Tetrachloroethane	79-34-5	0.018	0.0015
Tetrachloroethylene	127-18-4	0.18	0.015
Toluene-2,4-diisocyanate/ toluene-2,6-diisocyanate	26471-62-5	0.007	0.0006
o-Toluidine	95-53-4	0.015	0.0012
1,1,2-Trichloroethane	79-00-5	0.063	0.0052
Trichloroethylene	79-01-6	0.5	0.04
2,4,6-Trichlorophenol	88-06-2	0.32	0.027
1,2,3-Trichloropropane	96-18-4	0.0005	0.00004
Vanadium pentoxide	1314-62-1	0.01	0.00083

Contaminant	**CAS RN**	**Hazardous Ambient Air Standard And Stationary Source Hazardous Air Impact Standard (Annual Average)** (µg/m3)	**Action Level** (lbs/8 hr)
Vinyl acetate	108-05-4	20	1.7
Vinyl chloride	75-01-4	0.11	0.0091
Vinylidene chloride (1,1-Dichloroethylene)	75-35-4	20	1.7

APPENDIX C
HAZARDOUS AMBIENT AIR STANDARDS

CATEGORY II

Hazardous Air Contaminants Believed to Cause Chronic Systemic Toxicity Due to Long Term Exposure

Contaminant	**CAS RN**	**Hazardous Ambient Air Standard (Annual Average)** (µg/m³)	**Action Level** (lbs/8 hr)
Acetone	67-64-1	315	26.1
Acetonitrile	75-05-8	60	5.0
Acrolein	107-02-8	0.02	0.002
Ammonia	7664-41-7	100	8.3
n-Amyl acetate	628-63-7	18	1.5
s-Amyl acetate	626-38-0	18	1.5
Antimony compounds	0	4	0.3
Barium compounds	0	0.5	0.04
Bisphenol A epichlorohydrin	25068-38-6	0.01	0.00083
Bisphenol A resin	80-05-7	18	1.5
n-Butyl acetate	123-86-4	424	35.2
s-Butyl acetate	105-46-4	141.3	11.73
t-Butyl acetate	540-88-5	141.3	11.73
n-Butyl alcohol	71-36-3	173	14.4
s-Butyl alcohol	78-92-2	58	4.8
t-Butyl alcohol	75-65-0	152	12.6
para-tert-Butyltoluene	98-51-1	14	1.2
4-Butyrolactone	96-48-0	58	4.8
Carbon disulfide	75-15-0	657	54.5
Chlorine dioxide	10049-04-4	0.2	0.02
Chlorobenzene	108-90-7	2.0	0.2
Chromium compounds, except for Cr (VI) compounds	0	0.12	0.010
Copper (dust and mists)	0	0.24	0.020
Cumene	98-82-8	400	33.2
Cyanide compounds	0	7.0	0.6
Cyclohexane	110-82-7	82	6.8
Cyclohexanol	108-93-0	49	4.0
Cyclohexanone	108-94-1	64	5.3
Cyclohexene	110-83-8	800	66.4
Cyclohexlyamine	108-91-8	70	5.8
Decaborane	17702-41-9	0.006	0.0005

Contaminant	CAS RN	Hazardous Ambient Air Standard (Annual Average) (µg/m³)	Action Level (lbs/8 hr)
Diazomethane	334-88-3	0.08	0.007
Dibutyl phthalate	84-74-2	3.0	0.25
o-Dichlorobenzene	95-50-1	200	16.6
Dichlorodifluoromethane	75-71-8	200	16.6
trans-1,2-Dichloroethylene	156-60-5	19.0	1.6
s-Dichlorotetrafluoroethane	76-14-2	41,611	3,454
Diethanolamine	111-42-2	3	0.2
Diethylamine	109-89-7	2.9	0.24
Diethylaminoethanol	100-37-8	8.6	0.71
Diethylene glycol ethyl ether	111-90-0	700	58.1
Dimethoxyethane	110-71-4	0.01	0.00083
Dimethoxymethane	109-87-5	988	82.0
Dimethylamine	124-40-3	33	2.7
Dimethylphthalate	131-11-3	119	9.9
1,3-Dioxolane	646-06-0	67.6	5.6
Diphenylmethane diisocyanate	101-68-8	0.2	0.02
Dipropylene glycol	110-98-5	250	20.8
Dipropylene glycol methyl ether	34590-94-8	1,443	120
Ethanolamine	141-43-5	6.0	0.49
2-Ethoxyethanol	110-80-5	70	5.8
2-Ethoxyethyl acetate	111-15-9	30	2.5
Ethyl acetate	141-78-6	1,144	95
Ethyl alcohol	64-17-5	449	37.2
Ethylamine	75-04-7	1.9	0.16
Ethyl butyl ketone	106-35-4	300	24.9
Ethylene diamine	107-15-3	30	2.5
Ethylene glycol	107-21-1	400	33.2
Ethyl ether	60-29-7	144	12.0
Fluoranthene	206-44-0	14	1.2
Fluoride compounds, inorganic	0	60	4.9
Fluorine	7782-41-4	37	3.1
Glutaraldehyde	111-30-8	0.08	0.0066
Glyoxal	107-22-2	0.071	0.0059
Hexamethylene-1,6-diisocyanate	822-06-0	0.01	0.00083
n-Hexane	110-54-3	7,000	581
Hydrogen chloride	7647-01-0	20	1.7
Hydrogen fluoride	7664-39-3	14	1.2

Contaminant	CAS RN	Hazardous Ambient Air Standard (Annual Average) (µg/m³)	Action Level (lbs/8 hr)
Hydrogen peroxide	7722-84-1	0.6	0.050
Hydrogen sulfide	7783-06-4	1.0	0.08
Iron oxides, dust and fumes	0	12	1.0
Isoamyl acetate	123-92-2	127	10.5
Isoamyl alcohol	123-51-3	8.6	0.71
Isobutyl acetate	110-19-0	17	1.4
Isobutyl alcohol	78-83-1	105	8.7
Isopropyl alcohol	67-63-0	2,212	184
Isopropyl ether	108-20-3	497	41.3
Kerosene	8008-20-6	85	7.1
Manganese compounds	0	0.05	0.004
Mercury compounds	0	0.3	0.02
Mercury, alkyl compounds	0	0.24	0.020
2-Methoxyethanol	109-86-4	20	1.7
1-Methoxy-2-propanol	107-98-2	1,990	165
Methyl acetate	79-20-9	117	9.7
Methyl alcohol	67-56-1	1,166	97
Methylamine	74-89-5	1.0	0.084
Methyl amyl ketone (2-heptanone)	110-43-0	364	30.2
Methyl bromide	74-83-9	5	0.4
Methyl chloride	74-87-3	90	7.5
Methylcyclohexanol	25639-42-3	10	0.84
Methyl ethyl ketone	78-93-3	5,000	415
Methyl ethyl ketone peroxide	1338-23-4	0.06	0.005
Methyl iodide	74-88-4	5	0.4
Methyl isoamyl ketone	110-12-3	56	4.6
Methyl isobutyl ketone	108-10-1	3,000	249
Methyl methacrylate	80-62-6	240	19.9
Mineral spirits	8030-30-6	113	9.4
Molybdenum compounds (soluble)	0	1.2	0.099
Molybdenum compounds (metal & insoluble)	0	2.4	0.20
Nitric oxide	10102-43-9	11	0.93
p-Nitrochlorobenzene	100-00-5	0.10	0.0083
Nitroethane	79-24-3	37	3.0
1-Nitropropane	108-03-2	8.7	0.72
Octachloronaphthalene	2234-13-1	0.024	0.0020

Contaminant	CAS RN	Hazardous Ambient Air Standard (Annual Average) (µg/m³)	Action Level (lbs/8 hr)
Oxalic acid	144-62-7	1.0	0.083
Pentachloronaphthalene	1321-64-8	0.040	0.0033
2-Pentanone	107-87-9	167.9	13.9
Phenanthrene	85-01-8	105	8.7
Phenol	108-95-2	64	5.3
Phenoxyethanol	122-99-6	13	1.1
Phosgene	75-44-5	0.2	0.02
Phosphine	7803-51-2	0.3	0.02
Phosphoric acid	7664-38-2	10	0.83
Phosphorus pentachloride	10026-13-8	0.11	0.0091
Phosphorus pentasulfide	1314-80-3	0.33	0.027
Phosphorus trichloride	7719-12-2	3.4	0.28
Phthalic anhydride	85-44-9	20	1.7
Picric acid	88-89-1	20	1.7
Platinum, soluble salts	0	20	1.7
1,2-Propanediol	57-55-6	70	5.8
n-Propyl acetate	109-60-4	114	9.5
n-Propyl alcohol	71-23-8	221	18.4
Pyrene	129-00-0	11	0.87
Selenium compounds	0	1.8	0.15
Silica, amorphous (<1% quartz)	61790-53-2	24	2.0
Silica, crystalline	14808-60-7	0.12	0.010
Silica, fused	60676-86-0	0.02	0.0017
Silicon tetrahydride	7803-62-5	16	1.3
Silver compounds (soluble)	0	0.79	0.066
Silver compounds (metal)	0	7.9	0.66
Sodium bromide	7647-15-6	140	11.6
Stoddard solvent	8052-41-3	4,167	346
Tellurium compounds	0	0.79	0.066
1,1,2,2-Tetrachloro-1,2-difluoroethane (Freon-112)	76-12-0	208	17.3
Tetrachloronaphthalene	1335-88-2	0.16	0.013
Tetrahydrofuran	109-99-9	35.1	2.9
Tin compounds (metal and inorganic)	0	4.8	0.40
Tin compounds (organic)	0	0.3	0.02
Toluene	108-88-3	300	24.9

Contaminant	CAS RN	Hazardous Ambient Air Standard (Annual Average) (µg/m³)	Action Level (lbs/8 hr)
1,1,1-Trichloroethane	71-55-6	1,000	83.0
Trichlorofluoromethane (Freon-11)	75-69-4	562	46.6
Trichloronaphthalene	1321-65-9	0.4	0.03
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	76-13-1	30,000	2,490
Triethanoalmine	102-71-6	16.7	1.4
Triethylamine	121-44-8	7	0.6
Triethylenetetramine	112-24-3	111	9.2
Trifluorobromomethane	75-63-8	48,340	4,012
Trimethyl benzene (including mixed isomers)	25551-13-7	9.8	0.8
Triorthocresyl phosphate	78-30-8	0.02	0.002
Turpentine	8006-64-2	42	3.5
Vinyl toluene	25013-15-4	4.0	0.33
VM & P naphtha	8032-32-4	113.4	9.41
Xylene	1330-20-7	100	8.3
Zinc chloride	7646-85-7	1.0	0.083
Zinc oxide	1314-13-2	1.0	0.083

APPENDIX C
HAZARDOUS AMBIENT AIR STANDARDS

CATEGORY III

Hazardous Air Contaminants Believed to Cause Short-term Irritant Effects

Contaminant	**CAS RN**	**Hazardous Ambient Air Standard** (µg/m³)	**Action Level** (lbs/8 hr)
Acetic acid	64-19-7	58	3.0
Acetic anhydride	108-24-7	50	2.6
2-Amino-2-methyl-1-propanol	124-68-5	36	1.9
Ammonium sulfamate	7773-06-0	70	3.6
1,2-Benzenedicarboxylic acid	88-99-3	36	1.9
Benzyl alcohol	100-51-6	105	5.5
2-(2-Butoxyethoxy)-ethanol	112-34-5	21	1.1
Butylamine	109-73-9	119	6.2
Butyl propasol	5131-66-8	36	1.9
1,4-Butynediol	110-65-6	36	1.9
Calcium oxide	1305-78-8	4.8	0.25
Chlorine	7782-50-5	0.2	0.01
2-Chloroethyl vinyl ether	110-75-8	36	1.9
Decane	124-18-5	36	1.9
Diacetone alcohol	123-42-2	113	5.9
Dibenzoyl peroxide	94-36-0	13	0.65
Dimethyl ammonium chloride	506-59-2	36	1.9
n,n-Dimethyl dodecylamine	112-18-5	36	1.9
Dimethylethanolamine	108-01-0	36	1.9
2,6-Dimethyl-4-heptanone	108-83-8	35	1.8
n,n-Dimethyl octadecylamine	124-28-7	36	1.9
Dodecylguanidine hydrochloride	13590-97-1	36	1.9
Ethyl 3-ethoxypropionate	763-69-9	62.3	3.2
2-Ethylhexanol	104-76-7	36	1.9
2-Ethylhexyl ester acrylic acid	103-11-7	36	1.9
Ethyl mercaptan	75-08-1	1.9	0.099
Formic acid	64-18-6	36	1.9
Heptane	142-82-5	7,000	364
Iodine	7553-56-2	2	0.1
Isobutyl ester isobutyric acid	97-85-8	36	1.9
Isopropyl acetate	108-21-4	332	17.2
Isopropylamine	75-31-0	81	4.2
Methoxyethoxyethanol	111-77-3	36	1.9

Contaminant	CAS RN	Hazardous Ambient Air Standard (µg/m³)	Action Level (lbs/8 hr)
o-Methoxyphenol	90-05-1	36	1.9
p-Methylaminophenol sulfate	55-55-0	36	1.9
Methyl ester salicylic acid	119-36-8	36	1.9
3-Methyl-2-oxazolidone	19836-78-3	36	1.9
1-Methyl-2-pyrrolidone	872-50-4	172	8.9
Morpholine	110-91-8	159	8.3
Nitric acid	7697-37-2	137	7.1
1-Pentanol (Amyl alcohol)	71-41-0	36	1.9
Perchloric acid	7601-90-3	36	1.9
Phenyl ether	101-84-8	24	1.2
1-Phenyl-3-pyrazolidone	92-43-3	36	1.9
Platinum compounds, metal	7440-06-4	36	1.9
Potassium hydroxide	1310-58-3	0.67	0.035
2-Propoxyethanol	2807-30-9	36	1.9
Propoxypropanol	1569-01-3	36	1.9
1,2-Propylene carbonate	108-32-7	36	1.9
Sebacic Acid	111-20-6	36	1.9
Sodium hydroxide	1310-73-2	6.7	0.35
Sodium tripolyphosphate	7758-29-4	6.7	0.35
Sulfur monochloride	10025-67-9	2	0.1
Texanol	25265-77-4	36	1.9
Titanium dioxide	13463-67-7	6.0	0.31
p-Toluenesulfonic acid	104-15-4	36	1.9
2,4,6-Tri(dimethyl aminomethyl) phenol	90-72-2	36	1.9
Triethyl ester phosphoric acid	78-40-0	36	1.9
Triethyl orthoformate	122-51-0	36	1.9
4-Undecanol, 7-ethyl-2-methyl hydrogen sulfate	139-88-8	36	1.9

APPENDIX D
METHOD FOR THE DERIVATION OF HAZARDOUS AMBIENT AIR STANDARD

This appendix presents the standard procedure which shall be used by the *Secretary* when deriving a *Hazardous Ambient Air Standard (HAAS)*, in micrograms per cubic meter, for a *hazardous air contaminant*. In the event the United States Environmental Protection Agency (U.S. EPA) adopts an *ambient air quality standard* or a standardized method for determining such a standard for a *hazardous air contaminant*, the *Secretary* may set the *HAAS* for the contaminant at the level or by the method so established by the U.S. EPA. The *HAAS* may be no less stringent than the Federal *ambient air quality standard*.

CATEGORY I: Hazardous Air Contaminants that are Known or Suspected Carcinogens

Hazardous air contaminants that have been listed as potentially carcinogenic by the U.S. EPA, or International Agency for Research on Cancer, shall be classified as Category I: known or suspected carcinogens (except for HACs solely categorized by IARC as Group 1, inhaled in a form from occupational sources). Hazardous air contaminants that are reported to induce cancer in two or more species by the National Toxicological Program may also be classified as known or suspected carcinogens by the *Secretary* after consultation with the Vermont Department of Health.

The *HAAS* for each Category 1 *hazardous air contaminant* shall be set at a level estimated to correspond to an excess lifetime carcinogenic risk of one in one million assuming continual inhalation exposure. In cases where there is insufficient data available to derive such a value, the *HAAS* shall be set at 0.01 $\mu g/m^3$.

The averaging period for known or suspected carcinogens shall be annual.

CATEGORIES II AND III: *Hazardous Air Contaminants* Believed to Cause Chronic Systemic Toxicity due to Long-term Exposure or Short-term Irritant Effects

Those *hazardous air contaminants* not identified as potentially carcinogenic as defined above, are referred to as non-carcinogens and are divided into two categories:

Category II: *Hazardous Air Contaminants* Believed to Cause Chronic Systemic Toxicity due to Long-term Exposure; and

Category III: *Hazardous Air Contaminants* Believed to Cause Short-term Irritant Effects.

For both types of effects, it is generally assumed that some threshold level of toxicity exists (i.e. there is some level of exposure below which no adverse health effects are likely to occur).

Because the actual threshold level of exposure will vary from individual to individual, assessment of such compounds focuses on estimating a population threshold level. The *HAAS* for each Category II and Category III compound shall

be set at a level estimated to correspond to such a threshold based on continual inhalation exposure.

Various sources of toxicity information shall be examined in the development of a *HAAS* for each Category II and Category III *hazardous air contaminants*. These sources shall include, but are not limited to: U.S. EPA RfCs, occupational values (e.g., ACGIH TLVs, NIOSH RELS, VOSHA PELs), ATSDR MRLs, California EPA RELs, National AEGLs and reports published in the peer reviewed literature.

Uncertainty Factor

One or more uncertainty factors, each ranging from 1 to 10, may be applied in the development of a *HAAS* for each Category II or Category III *hazardous air contaminant*. Where appropriate, an additional modifying factor, typically ranging from 1 to 10, may be included in the calculation. The total adjustment factor applied will depend on the nature and extent of chemical specific toxicity information available for review.

Averaging Time

The averaging period for Category II *hazardous air contaminants* shall be annual. A 24 hour averaging period will be employed for Category III *hazardous air contaminants*.

Alternative Methods

In the event that insufficient toxicological information is available with which to derive a *HAAS* for Category II and Category III *hazardous air contaminants*, a default value shall be set for each category at the median value of all *HAAS* published in Appendix C for the given category. The *action level* shall be derived in accordance with Appendix E.

a. The Category II median *HAAS* is 20 µg/m^3 and its representative *action level* is 1.7 lbs/8 h.

b. The Category III median *HAAS* is 36 µg/m^3 and its representative *action level* is 1.9 lbs/8 h.

APPENDIX E
METHOD FOR THE DERIVATION OF ACTION LEVELS

This appendix presents the standard procedure which shall be used by the *Secretary* when deriving an *Action Level*, in pounds of *emissions* per eight hours, for a *hazardous air contaminant*.

Action Levels shall be calculated for all *hazardous air contaminants* for which the *Secretary* has established a *HAAS* by one of the following methods:

1. For *hazardous air contaminants* with a *HAAS* based on a twenty-four hour averaging period, the *HAAS* shall be multiplied by 0.052.

2. For *hazardous air contaminants* with a *HAAS* based on an annual averaging period, the *HAAS* shall be multiplied by 0.083.

APPENDIX F
PROVISIONS OF THE CALIFORNIA CODE OF REGULATIONS (CCR)

Incorporated by Reference in Subchapter XI of the
Vermont Air Pollution Control Regulations
Incorporation by Reference Date: January 30, 2014

Title 13 CCR	Title
Chapter 1	Motor *Vehicle* Pollution *Control Devices*.
Article 1	General Provisions.
1900	Definitions.
1903	Plans Submitted.
1904	Applicability to Vehicles Powered by Fuels Other Than Gasoline.
Article 2	Approval of Motor *Vehicle* Pollution *Control Devices* (*New Vehicles*).
1956.8(c), (g) and (h)	Exhaust *Emissions* Standards and Test Procedures - 1985 and Subsequent Model Heavy-Duty Engines and *Vehicles*.
1960.1	Exhaust *Emissions* Standards and Test Procedures - 1981 and through 2006 Model *Passenger Cars*, Light-Duty and *Medium-Duty Vehicles*.
1960.5	Certification of 1983 and Subsequent Model-Year Federally-Certified Light-Duty Motor Vehicles for Sale in California.
1961	Exhaust Emission Standards and Test Procedures – 2004 through 2019 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.
1961.1	Greenhouse Gas Exhaust Emission Standards and Test Procedures – 2009 through 2016 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.
1961.2	Exhaust Emission Standards and Test Procedures - 2015 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.
1961.3	Greenhouse Gas Exhaust Emission Standards and Test Procedures - 2017 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.
1962	Zero-Emission *Vehicle* Standards for 2005 and through 2008 Model Year *Passenger Cars*, *Light-Duty Trucks*, *and Medium-Duty Vehicles*.
1962.1	Zero-Emission Vehicle Standards for 2009 through 2017 Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.
1962.2	Zero-Emission Vehicle Standards for 2018 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.
1962.3	Electric Vehicle Charging Requirements.

Title 13 CCR	Title
1964	Special Test Procedures for Certification and Compliance – New Modifier Certified Motor Vehicles.
1965	Emission Control, Smog Index, and Environmental Performance Labels — 1979 and Subsequent *Model-Year* Motor *Vehicles.*
1968.1	Malfunction and Diagnostic System Requirements - 1994 and Subsequent Model-Year *Passenger Cars, Light-Duty Trucks* and *Medium-Duty Vehicles* and Engines.
1968.2	Malfunction and Diagnostic System Requirements – 2004 and Subsequent Model-Year *Passenger Cars*, *Light-Duty Trucks* and *Medium-Duty Vehicles* and Engines.
1976	Standards and Test Procedures for Motor Vehicle Fuel Evaporative *Emissions*.
1978	Standards and Test Procedures for *Vehicle* Refueling *Emissions*.
Article 6	*Emission Control* System Warranty.
2035	Purpose, Applicability, and Definitions.
2036	Defects Warranty Requirements for 1979 Through 1989 Model *Passenger Cars, Light-Duty Trucks*, and *Medium-Duty Vehicles*; 1979 and Subsequent Model Motorcycles and Heavy-Duty *Vehicles*; and Motor Vehicle Engines Used in Such *Vehicles*.
2037	Defects Warranty Requirements for 1990 and Subsequent Model *Passenger Cars, Light-Duty Trucks*, and *Medium-Duty Vehicles*, and Motor Vehicle Engines Used in Such *Vehicles*.
2038	Performance Warranty Requirements for 1990 and Subsequent Model *Passenger Cars, Light-Duty Trucks*, *Medium-Duty Vehicles* and Motor Vehicle Engines Used in Such *Vehicles*.
2039	*Emissions Control* System Warranty Statement.
2040	*Vehicle* Owner Obligations.
2041	Mediation; Finding of Warrantable Condition.
2046	Defective Catalyst.
2047	Certification procedures for Used Modifier-certified Motor Vehicles.
Chapter 2	Enforcement of *Vehicle* Emission Standards and Surveillance Testing.
Article 1	Assembly-Line Testing.
2062	Assembly-Line Test Procedures - 1998 and Subsequent *Model-years*.
Article 2	Enforcement of New and In-Use *Vehicle* Standards.
2101	Compliance Testing and Inspection - New *Vehicle* Selection, Evaluation and Enforcement Action.
2109	New *Vehicle Recall* Provisions.

Title 13 CCR	Title
2110	Remedial Action for Assembly-Line Quality Audit Testing of Less Than a Full Calendar Quarter of Production Prior to the 2001 *Model-year*.
Article 2.1	Procedures for In-Use *Vehicle* Voluntary and Influenced *Recalls*.
2111	Applicability.
2112	Definitions.
	Appendix A to Article 2.1.
2113	Initiation and Approval of Voluntary and Influenced Emission-Related *Recalls*.
2114	Voluntary and Influenced *Recall* Plans.
2115	Eligibility for Repair.
2116	Repair Label.
2117	Proof of Correction Certificate.
2118	Notification.
2119	Recordkeeping and Reporting Requirements
2120	Other Requirements Not Waived.
Article 2.2	Procedures for In-Use Vehicle Ordered *Recalls*.
2121	Penalties.
2122	General Provisions.
2123	Initiation and Notification of Ordered Emission-Related *Recalls*.
2124	Availability of Public Hearing.
2125	Ordered *Recall* Plan.
2126	Approval and Implementation of *Recall* Plan.
2127	Notification of Owners.
2128	Repair Label.
2129	Proof of Correction Certificate.
2130	Capture Rates and Alternative Measures.
2131	Preliminary Tests.
2132	Communication with Repair Personnel.
2133	Recordkeeping and Reporting Requirements.
2134	Penalties.
2135	Extension of Time.
Article 2.3	In-Use *Vehicle* Enforcement Test Procedures.
2136	General Provisions.
2137	*Vehicle* Selection.
2138	Restorative Maintenance.

Title 13 CCR	Title
2139	Testing.
2140	Notification and Use of Test Results.
Article 2.4	Procedures for Reporting Failure of Emission-Related Components.
2141	General Provisions.
2142	Alternative Procedures
2143	Failure Levels Triggering *Recall*.
2144	*Emission* Warranty Information Report.
2145	Field Information Report.
2146	*Emissions* Information Report.
2147	Demonstration of Compliance with *Emission* Standards.
2148	Evaluation of Need for *Recall*.
2149	Notification of Subsequent Action.
Chapter 4	Criteria for the Evaluation of Motor Vehicle Pollution Control Devices and Fuel Additives.
Article 2	Aftermarket Parts.
2222	Add-On Parts and Modified Parts.
Chapter 4.4	Specifications for Fill Pipes and Openings of Motor *Vehicle* Fuel Tanks.
2235	Requirements.

APPENDIX G
STATIC PRESSURE PERFORMANCE REQUIREMENT

Note: APPENDIX G will be added to a future version of the Regulations. Please contact the Air Quality and Climate Division to obtain a copy.

TABLE 1
INDUSTRIAL PROCESS WEIGHT STANDARDS*

Process Weight lbs/hr	(kg/hr)	Discharge Maximum Weight lbs/hr	(kg/hr)	Process Weight lbs/hr	(kg/hr)	Discharge Maximum Weight lbs/hr	(kg/hr)
50	(23)	0.24	(0.11)	3400	(1542)	5.44	(2.47)
100	(45)	0.46	(0.21)	3500	(1588)	5.52	(2.50)
150	(68)	0.66	(0.30)	3600	(1633)	5.61	(2.54)
200	(91)	0.85	(0.39)	3700	(1678)	5.69	(2.58)
250	(113)	1.03	(0.47)	3800	(1724)	5.77	(2.62)
300	(136)	1.20	(0.54)	3900	(1769)	5.85	(2.65)
350	(159)	1.35	(0.61)	4000	(1814)	5.93	(2.70)
400	(181)	1.50	(0.68)	4100	(1860)	6.01	(2.73)
450	(204)	1.63	(0.74)	4200	(1905)	6.08	(2.76)
500	(227)	1.77	(0.80)	4300	(1950)	6.15	(2.79)
550	(249)	1.89	(0.86)	4400	(1996)	6.22	(2.82)
600	(272)	2.01	(0.91)	4500	(2041)	6.30	(2.86)
650	(295)	2.12	(0.96)	4600	(2087)	6.37	(2.89)
700	(318)	2.24	(1.02)	4700	(2132)	6.45	(2.93)
750	(340)	2.34	(1.06)	4800	(2177)	6.52	(2.96)
800	(363)	2.43	(1.10)	4900	(2223)	6.60	(2.99)
850	(386)	2.53	(1.15)	5000	(2268)	6.67	(3.03)
900	(408)	2.62	(1.19)	5500	(2495)	7.03	(3.19)
950	(431)	2.72	(1.23)	6000	(2722)	7.37	(3.34)
1000	(454)	2.80	(1.27)	6500	(2948)	7.71	(3.50)
1100	(499)	2.97	(1.35)	7000	(3175)	8.05	(3.65)
1200	(544)	3.12	(1.42)	7500	(3402)	8.39	(3.81)
1300	(590)	3.26	(1.48)	8000	(3629)	8.71	(3.95)
1400	(635)	3.40	(1.54)	8500	(3856)	9.03	(4.10)
1500	(680)	3.54	(1.61)	9000	(4082)	9.36	(4.25)
1600	(726)	3.66	(1.66)	9500	(4309)	9.67	(4.39)
1700	(771)	3.79	(1.72)	10000	(4536)	10.00	(4.54)
1800	(816)	3.91	(1.77)	11000	(4989)	10.63	(4.82)
1900	(862)	4.03	(1.83)	12000	(5443)	11.28	(5.12)
2000	(907)	4.14	(1.88)	13000	(5897)	11.89	(5.39)
2100	(953)	4.24	(1.92)	14000	(6350)	12.50	(5.67)
2200	(998)	4.34	(1.97)	15000	(6804)	13.13	(5.96)
2300	(1043)	4.44	(2.01)	16000	(7257)	13.74	(6.23)
2400	(1089)	4.55	(2.06)	17000	(7711)	14.36	(6.51)
2500	(1134)	4.64	(2.10)	18000	(8165)	14.97	(6.79)
2600	(1179)	4.74	(2.15)	19000	(8618)	15.58	(7.07)
2700	(1225)	4.84	(2.20)	20000	(9072)	16.19	(7.34)
2800	(1270)	4.92	(2.23)	30000	(13608)	22.22	(10.08)
2900	(1315)	5.02	(2.28)	40000	(18144)	28.3	(12.84)
3000	(1361)	5.10	(2.31)	50000	(22680)	34.3	(15.56)
3100	(1406)	5.18	(2.35)	60000	(27215)	40.0	(18.14)
3200	(1451)	5.27	(2.39)	or More			
3300	(1497)	5.36	(2.43)				

*Note: In the case of any conflict between the English and Metric units set out in this table, the English units shall prevail.

TABLE 2
PREVENTION OF SIGNIFICANT DETERIORATION (PDS) INCREMENTS

Air Contaminant Averaging Time		Maximum Allowable Increment (μg/m³)		
		Class I	**Class II**	**Class III**
PM_{10}	Annual (arithmetic mean)	4	17	34
	24-hr (maximum)	8	30	60
$PM_{2.5}$	Annual (arithmetic mean)	1	4	8
	24-hr (maximum)	2	9	18
Sulfur Dioxide	Annual (arithmetic mean)	2	20	40
	24-hr (maximum)	5	91	182
	3-hr (maximum)	25	512	700
Nitrogen Dioxide	Annual (arithmetic mean)	2.5	25	50

At present all *attainment areas* of the State are Class II, except for the Lye Brook Wilderness Area which is Class I. Increments for Class III areas are shown in the event areas are reclassified in the future to Class III.

TABLE 3
LEVELS OF SIGNIFICANT IMPACT

Air Contaminant	Averaging Time				
	Annual	24-Hour	8-Hour	3-Hour	1-Hour
Sulfur Dioxide	1.0 µg/m³	5.0 µg/m³		25 µg/m³	
PM_{10}	1.0 µg/m³	5.0 µg/m³			
$PM_{2.5}$					
Class I areas	0.06µg/m³	0.07µg/m³			
Class II areas	0.3 µg/m³	1.2 µg/m³			
Class III areas	0.3 µg/m³	1.2 µg/m³			
Nitrogen Dioxide	1.0 µg/m³				
Carbon Monoxide			0.5 mg/m³		2 mg/m³
Lead	0.06 µg/m³ (averaged over 3 consecutive months)				
Sulfates		2.0 µg/m³			
Sulfates (seasonal)	0.2 µg/m³ (April to September - 6 month average)				

TABLE 4
SECTIONS ADDED OR AMENDED

Subchapter	Section	Effective Dates
I	5-101	Eff. December 10, 1972; Amended eff. November 19, 1973; December 16, 1974; January 25, 1978; August 12, 1978; November 12, 1978; March 24, 1979; November 4, 1979; November 3, 1981; October 19, 1984; September 17, 1986; April 20, 1988; July 1, 1988; March 4, 1989; November 1, 1990; November 13, 1992; January 20, 1993; August 13, 1993; March 31, 1995; November 30,1995; August 24, 1998; March 4, 2004; March 28, 2007; February 8, 2011; July 5, 2014; December 29, 2014; December 15, 2016.
II	5-201	Eff. December 10, 1972; Amended eff. January 25, 1978; August 13, 1993.
	5-202	Eff. December 10, 1972; Amended eff. January 25, 1978; August 13, 1993; December 15, 2016.
	5-203	Eff. December 10, 1972 as Section 5-420; Renumbered eff. January 25, 1978.
	5-204	Eff. October 1, 1997. Amended eff. April 27, 2007; October 1, 2009; July 5, 2014; December 15, 2016.
	5-205	Eff. April 27, 2007. REPEALED eff. October 1, 2009.
	5-211	Eff. December 10, 1972; Amended eff. January 25, 1978; August 12, 1978.
	5-221	Eff. December 10, 1972; Amended eff. November 19, 1973; April 24, 1974; March 16, 1975; July 12, 1976; January 25, 1978; October 19, 1984; August 24, 1998; September 28, 2011; July 5, 2014.
	5-231	Eff. December 10, 1972; Amended eff. November 19, 1973; December 16, 1974; July 12, 1976; March 14, 1977; January 25, 1978; August 12, 1978; November 3, 1981; November 1, 1990; November 9, 1995; December 15, 2016.
	5-241	Eff. December 10, 1972; Amended eff. November 19, 1973; January 25, 1978; December 15, 2016.
	5-251	Eff. December 10, 1972; Amended eff. January 25, 1978; March 25, 1979; November 4, 1979; August 13, 1993; November 30, 1995; February 8, 2011.
	5-252	Eff. July 12, 1976 as Section 5-221(1)(b); Amended eff. January 25, 1978; March 24, 1979; November 4, 1979; February 8, 2011.
	5-253	Eff. March 24, 1979; Amended eff. November 4, 1979; January 13, 1989; Renumbered and amended eff. November 13, 1992; Amended eff. August 13, 1993; August 17, 1994.
	5-253.1	Renumbered eff. November 13, 1992.

Subchapter	Section	Effective Dates
	5-253.2	Renumbered and amended eff. November 13, 1992. Amended eff. December 29, 2014.
	5-253.3	Eff. November 13, 1992; Amended eff. April 20, 2001; December 29, 2014.
	5-253.4	Eff. November 13, 1992.
	5-253.5	Eff. November 13, 1992. Amended eff. December 29, 2014.
	5-253.6	Renumbered eff. November 13, 1992.
	5-253.7	Eff. August 22, 1996; Amended eff. April 20, 2001. REPEALED eff. January 1, 2013.
	5-253.10	Renumbered and amended eff. November 13, 1992.
	5-253.11	Eff. November 13, 1992; Amended eff. December 15, 2016.
	5-253.12	Eff. November 13, 1992.
	5-253.13	Eff. August 13, 1993.
	5-253.14	Eff. August 13, 1993.
	5-253.15	Eff. August 17, 1994.
	5-253.16	Eff. March 1, 2004. Amended eff. March 28, 2007; July 5, 2014; December 15, 2016.
	5-253.20	Eff. August 13, 1993; July 5, 2014.
	5-261	Eff. November 3, 1981; Amended eff. March 4, 1989; January 20, 1993; March 28, 2007.
	5-271	Eff. August 24, 1998. Amended eff. February 8, 2011; July 5, 2014.
III	5-301	Eff. December 10, 1972 as Sections 5-301 to 303; Amended eff. November 19, 1973; December 16, 1974; July 12, 1976; March 24, 1979; and December 15, 1990; July 5, 2014.
	5-302	Eff. December 10, 1972 as Sections 5-301 to 303; Amended eff. November 19, 1973; December 16, 1974; July 12, 1976; March 24, 1979; July 5, 2014.
	5-303	Eff. December 10, 1972 as Sections 5-301 to 303; Amended eff. November 19, 1973; December 16, 1974; July 12, 1976; March 24, 1979; July 5, 2014.
	5-304	Eff. December 10, 1972 as Sections 5-301 to 303; Amended eff. November 19, 1973; December 16, 1974; July 12, 1976; March 24, 1979; July 5, 2014.

Subchapter	Section	Effective Dates
	5-305	Eff. December 10, 1972 as Sections 5-301 to 303; Amended eff. November 19, 1973; December 16, 1974; July 12, 1976; March 24, 1979; July 5, 2014.
	5-306	Eff. November 1, 1990; July 5, 2014.
	5-307	Eff. December 10, 1972 as Sections 5-301 to 303; Amended eff. November 19, 1973; December 16, 1974; July 12, 1976; March 24, 1979; Renumbered November 1, 1990; July 5, 2014.
	5-308	Eff. March 24, 1979 as Section 5-307; Renumbered November 1, 1990; Amended eff. August 13, 1993; July 5, 2014.
	5-309	Eff. December 15, 1990; July 5, 2014.
	5-310	Eff. November 3, 1981 as Section 5-308, Renumbered eff. November 1, 1990, Amended eff. August 13, 1993; July 5, 2014.
	5-312	Eff. September 17, 1986 as Section 5-310; Renumbered eff. November 1, 1990; July 5, 2014.
IV	5-401	Eff. March 24, 1979, Amended eff. August 24, 1998; February 8, 2011; July 5, 2014; December 15, 2016.
	5-402	Eff. December 10, 1972; Amended eff. November 19, 1973; March 24, 1979; February 8, 2011.
	5-403	Eff. December 10, 1972.
	5-404	Eff. December 10, 1972; Amended eff. January 25, 1978; March 24, 1979; November 1, 1990; February 8, 2011; July 5, 2014; December 15, 2016.
	5-405	Eff. December 10, 1972; Amended eff. March 24, 1979.
	5-406	Eff. March 24, 1979; Amended eff. November 30, 1995; February 8, 2011; July 5, 2014.
	5-407	Eff. December 15, 2016.
	5-408	Eff. December 15, 2016.

Subchapter	Section	Effective Dates
	5-409	Eff. December 15, 2016.
V	5-501	Eff. December 10, 1972 as Section 5-407; Amended eff. January 25, 1978; March 24, 1979; November 4, 1979; November 3, 1981; September 17, 1986; February 8, 2011; July 5, 2014; December 15, 2016.
	5-502	Eff. March 24, 1979; Amended eff. November 4, 1979; November 3, 1981; September 17, 1986; November 1, 1990; August 13, 1993; February 8, 2011; July 5, 2014; December 15, 2016.
	5-503	Eff. November 19, 1973 as Section 5-430; Amended eff. July 12, 1976; March 24, 1979. REPEALED eff. February 8, 2011.
	5-504	Eff. July 1, 1988. Amended eff. February 8, 2011.
VI	5-601 to 613	Eff. November 12, 1978. REPEALED eff. December 15, 2016.
VII	5-701	Eff. December 10, 1972 as Section 5-501; Renumbered eff. March 24, 1979; Amended eff. July 3, 1996; December 15, 2016.
	5-702	Eff. December 10, 1972 as Section 5-502; Renumbered eff. March 24, 1979; Amended eff. December 15, 2016.
	5-703	Eff. July 3, 1996; December 15, 2016.
VIII	5-801 to 5-806	Eff. April 20, 1988; Amended eff. December 15, 2016.
	5-807	Eff. April 20, 1988; Amended eff. November 30, 1995; March 28, 2007; Renumbered eff. December 15, 2016.
IX	5-901	Eff. March 24, 1979 as Section 5-801; renumbered eff. April 20, 1988; Amended eff. November 1, 1990; November 13, 1992; August 13, 1993.
	5-911	Eff. November 1, 1990; Amended eff. November 13, 1992.
	5-921	Eff. November 1, 1990.
X	5-1001	Eff. March 31, 1995
	5-1002	Eff. March 31, 1995; Amended eff. November 29, 2001; February 8, 2011.

Subchapter	Section	Effective Dates
	5-1003	Eff. March 31, 1995. Amended eff. February 8, 2011; July 5, 2014.
	5-1004	Eff. March 31, 1995.
	5-1005	Eff. March 31, 1995; Amended eff. December 15, 2016.
	5-1006	Eff. March 31, 1995; Amended eff. November 29, 2001.
	5-1007	Eff. March 31, 1995; Amended eff. November 29, 2001; February 8, 2011.
	5-1008	Eff. March 31, 1995; Amended eff. November 29, 2001.
	5-1009	Eff. March 31, 1995.
	5-1010	Eff. March 31, 1995. Amended eff. February 8, 2011.
	5-1011	Eff. March 31, 1995.
	5-1012	Eff. March 31, 1995. Amended eff. February 8, 2011.
	5-1013	Eff. March 31, 1995; Amended eff. November 29, 2001; February 8, 2011.
	5-1014	Eff. March 31, 1995; Amended eff. November 29, 2001.
	5-1015	Eff. March 31, 1995; Amended eff. November 30, 1995; November 29, 2001.
	5-1016	Eff. March 31, 1995.
XI	5-1101	Eff. November 8, 1996; Amended eff. December 29, 2000; November 22, 2005; January 3, 2009; February 14, 2014.
	5-1102	Eff. November 8, 1996; Amended eff. December 29, 2000; November 22, 2005; February 14, 2014.
	5-1103	Eff. November 8, 1996; Amended eff. December 29, 2000; November 22, 2005; January 3, 2009; February 14, 2014.
	5-1104	Eff. November 8, 1996; Amended eff. December 29, 2000.
	5-1105	Eff. November 8, 1996; Amended eff. December 29, 2000; January 3, 2009; February 14, 2014.
	5-1106	Eff. November 8, 1996; Amended eff. December 29, 2000; November 22, 2005; January 3, 2009; February 14, 2014.
	5-1107	Eff. November 8, 1996; Amended eff. December 29, 2000; November 22, 2005; January 3, 2009; February 14, 2014.
	5-1108	Eff. December 29, 2000. Amended eff. November 22, 2005
	5-1109	Eff. November 22, 2005.
App. A		Eff. November 12, 1978.

Subchapter	Section	Effective Dates
App. B		Eff. March 4, 1989; Amended eff. January 20, 1993; March 28, 2007.
App. C		Eff. March 4, 1989; Amended eff. January 20, 1993; August 13, 1993; March 28, 2007.
App. D		Eff. March 4, 1989; Amended eff. January 20, 1993; March 28, 2007.
App. E		Eff. March 4, 1989; Amended eff. January 20, 1993; March 28, 2007.
App. F		Eff. November 8, 1996; Amended eff. December 29, 2000; January 3, 2009; February 14, 2014.
App. G		Eff. December 29, 2014.
Table 1		Eff. December 10, 1972; Amended eff. January 25, 1978.
Table 2		Eff. March 24, 1979; Amended eff. November 1, 1990; December 15, 1990; July 29, 1995; July 5, 2014.
Table 3		Eff. March 24, 1979; Amended eff. November 4, 1979; November 3, 1981; September 17, 1986; November 1, 1990; July 5, 2014.