

RULE 101 GENERAL PROVISIONS AND DEFINITIONS
Adopted 8-1-62
(Amended 12-6-78, 6-5-79, 11-29-83, 9-5-96, 6-5-97, 9-3-98, 10-27-11)

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100 GENERAL

- 101 **TITLE:** These rules and regulations shall be known as the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District.
- 102 **APPLICABILITY:** Except as otherwise specifically provided in these rules and regulations or where the context otherwise indicates, the provisions of this rule shall apply to all rules and regulations of the Sacramento Metropolitan Air Quality Management District.
- 103 **SEVERABILITY:** If any regulation, rule, section, subsection, sentence, clause, phrase, or portion of these rules and regulations is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District.

200 DEFINITIONS

- 201 **ATMOSPHERE:** The air that envelopes or surrounds the earth. Where air pollutants are emitted into a building not designed specifically as a piece of air pollution control equipment, such emission into the building shall be considered an emission into the atmosphere.
- 202 **BOARD:** The Board of Directors of the Sacramento Metropolitan Air Quality Management District.
- 203 **EMISSIONS UNIT:** An identifiable operation or piece of process equipment such as an article, machine, or other contrivance which controls, emits, may emit, or results in the emissions of any affected pollutant or hazardous air pollutant (HAP), directly or as fugitive emissions. Emissions unit shall not include the open burning of agricultural biomass.
- 204 **EXEMPT COMPOUND:** A chemical identified in the following list:
- 204.1 carbon monoxide
 - 204.2 carbon dioxide
 - 204.3 carbonic acid
 - 204.4 metallic carbides or carbonates
 - 204.5 ammonium carbonate
 - 204.6 methane
 - 204.7 ethane
 - 204.8 methylene chloride (dichloromethane)
 - 204.9 1,1,1-trichloroethane (methyl chloroform)
 - 204.10 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113)
 - 204.11 trichlorofluoromethane (CFC-11)
 - 204.12 dichlorodifluoromethane (CFC-12)
 - 204.13 chlorodifluoromethane (HCFC-22)
 - 204.14 trifluoromethane (HFC-23)
 - 204.15 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114)
 - 204.16 chloropentafluoroethane (CFC-115)
 - 204.17 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123)
 - 204.18 1,1,1,2-tetrafluoroethane (HFC-134a)
 - 204.19 1,1-dichloro 1-fluoroethane (HCFC-141b)
 - 204.20 1-chloro 1,1-difluoroethane (HCFC-142b)
 - 204.21 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
 - 204.22 pentafluoroethane (HFC-125)
 - 204.23 1,1,2,2-tetrafluoroethane (HFC-134)
 - 204.24 1,1,1-trifluoroethane (HFC-143a)

- 204.25 1,1-difluoroethane (HFC-152a)
- 204.26 parachlorobenzotrifluoride (PCBTF)
- 204.27 cyclic, branched, or linear completely methylated siloxanes
- 204.28 acetone
- 204.29 perchloroethylene (tetrachloroethylene)
- 204.30 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)
- 204.31 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)
- 204.32 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee)
- 204.33 difluoromethane (HFC-32)
- 204.34 ethylfluoride (HFC-161)
- 204.35 1,1,1,3,3,3-hexafluoropropane (HFC-236fa)
- 204.36 1,1,2,2,3-pentafluoropropane (HFC-245ca)
- 204.37 1,1,2,3,3-pentafluoropropane (HFC-245ea)
- 204.38 1,1,1,2,3-pentafluoropropane (HFC-245eb)
- 204.39 1,1,1,3,3-pentafluoropropane (HFC-245fa)
- 204.40 1,1,1,2,3,3-hexafluoropropane (HFC-236ea)
- 204.41 1,1,1,3,3-pentafluorobutane (HFC-365mfc)
- 204.42 chlorofluoromethane (HCFC-31)
- 204.43 1 chloro-1-fluoroethane (HCFC-151a)
- 204.44 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)
- 204.45 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃ or HFE-7100)
- 204.46 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OCH₃)
- 204.47 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅ or HFE-7200)
- 204.48 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OC₂H₅)
- 204.49 methyl acetate
- 204.50 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C₃F₇OCH₃ or HFE-7000)
- 204.51 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500)
- 204.52 methyl formate (HCOOCH₃)
- 204.53 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300)
- 204.54 propylene carbonate
- 204.55 dimethyl carbonate
- 204.56 perfluorocarbon compounds which fall into these classes:
 - a. cyclic, branched, or linear, completely fluorinated alkanes;
 - b. cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
 - c. cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
 - d. sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

205 **ON-SITE:** The parcel(s) of land or other real property(ies) on which an emissions unit is located.

206 **PERSON:** Any individual, firm, association, organization, partnership, business trust, corporation, company, contractor, supplier, installer, user or owner, or any state or local government agency or public district or any officer or employee thereof. "Person" also means the United States or its agencies to the extent authorized by Federal law.

207 **REGULATION:** One of the major subdivisions of the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District.

208 **RULE:** A rule of the Sacramento Metropolitan Air Quality Management District.

209 **SECTION:** A section of the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District unless some other rule, statute, or regulation is specifically mentioned.

- 210 **STANDARD CONDITIONS:** "Standard Conditions" are a gas temperature of 68 degrees Fahrenheit (20 degrees Celsius) and a gas pressure of 14.7 pounds per square inch (760 millimeters of mercury) absolute. Results of all analyses and tests shall be calculated or reported at this gas temperature and pressure.
- 211 **TRADE SECRET:** A trade secret includes, but is not limited to, any formula, plan, pattern, process, tool, mechanism, compound, procedure, production data, or compilation of information which:
- 211.1 Is not patented; and
 - 211.2 Is known only to certain individuals within a commercial concern who are using it to fabricate, produce, or compound an article of trade or a service having commercial value; and
 - 211.3 Gives its user an opportunity to obtain a business advantage over competitors who do not know or use it.
- 212 **VOLATILE ORGANIC COMPOUND (VOC):** Any compound containing at least one atom of carbon, excluding any exempt compound.

300 STANDARDS

- 301 **AUTHORITY TO ARREST:** In the performance of his or her duties, the Air Pollution Control Officer and his or her duly authorized agents shall have the authority and immunity of public officers and employees as set forth in the California Penal Code Section 836.5 to make arrests without a warrant whenever he or she has reasonable cause to believe that the person to be arrested has committed a misdemeanor in his presence which is in violation of any of the rules and regulations of the Sacramento Metropolitan Air Quality Management District wherein he or she has the authority to enforce or of any statute which he or she has the authority to enforce.
- 302 **DISCLOSURE OF DATA:** The Air Pollution Control Officer shall, upon due notice, make the following data and information available to the public and other government agencies for examination and provide copies thereof where appropriate:
- 302.1 Air pollution data, including trade secrets, shall be disclosed in accordance with the provisions of Government Code Section 6254.7.
 - 302.2 Data required to be submitted to the District under the Air Toxics "Hot Spots" Information and Assessment Act, and which the operator believes to be a trade secret, shall be protected from disclosure in accordance with the provisions of Health and Safety Code Section 44346.

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4-19-84

RULE 102 CIRCUMVENTION

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100 GENERAL

101 PURPOSE: To make it unlawful for a person to circumvent any applicable section of these rules and regulations.

300 STANDARDS

301 REDUCTION OR CONCEALMENT OF EMISSIONS: A person shall not build, erect, install, or use any article, machine, equipment, or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants into the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Part 3, Division 26 of the Health and Safety Code of the State of California or of these Rules and Regulations. This rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California.

302 SEPARATION OF EMISSIONS: If air contaminants from a single source operation are emitted through two or more emission points, the total emitted quantity of any air contaminant limited in this regulation cannot exceed the quantity which would be the allowable emission through a single emission point; the total emitted quantity of any such air contaminant shall be taken as the product of the highest concentration measured in any of the emission points and the combined exhaust gas volume from all emission points, unless the person responsible for the source operation establishes, to the satisfaction of the Air Pollution Control Officer, the correct total emitted quantity.

303 COMBINED EMISSIONS, SEPARATED: If air contaminants from two or more source operations are combined prior to emission and there are adequate and reliable means reasonably susceptible to confirmation and use by the Air Pollution Control Officer for establishing a separation of the components of the combined emission to indicate the nature, extent, quantity and degree of emission arising from each such source operation, then all of the applicable prohibitions shall apply to each such source operation separately.

304 COMBINED EMISSIONS, UNSEPARATED: If air contaminants from two or more source operations are combined prior to emission, and the combined emissions cannot be separated according to the requirements of Section 303 of this rule, then all applicable prohibitions shall be applied to the combined emission as if it originated in a single source operation, subject to the most stringent limitations and requirements placed by these prohibitions on any of the source operations whose air contaminants are so combined.

RULE 103

EXCEPTIONS

Adopted 9-24-73

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100 GENERAL

101 **PURPOSE:** To provide authority to the Air Pollution Control Officer to permit an activity, under certain circumstances.

300 STANDARDS

301 **EXEMPTIONS FROM REGULATION 4:** Provisions of Regulation 4 shall not apply to any activity which is for the purpose of investigation, experiment or research to advance the state of knowledge or to improve technique; and

301.1 The Air Pollution Control Officer has granted a permit to conduct said activity, with conditions of said activity specified therein; and

301.2 The terms of said conditions are met; and

301.3 The Health Officer of Sacramento County has been consulted and has concurred with such permit and the conditions contained therein.

302 PERMIT DETERMINATIONS: Before granting a permit under this Rule, the Air Pollution Control Officer shall determine that;

302.1 Said activity shall not interfere with the attainment and maintenance of any ambient air quality standard set by the California Air Resources Board or the United States Environmental Protection Agency; and

302.2 Said activity would not result in violation of any State or Federal air pollution emission control regulation effective in Sacramento County; and

302.3 No reasonably available air pollution control technology can be applied to said activity.

400 ADMINISTRATIVE REQUIREMENTS

401 PERMIT REVOCATION: The Air Pollution Control Officer shall revoke any permit issued if provisions of Section 302 of this rule are not met.

RULE 104 GENERAL CONFORMITY
Adopted 11-03-94

The provisions of Code of Federal Regulations (CFR), title 40, chapter I, subchapter C, part 6 and part 51, sections 51.850 through 51.860, in effect on November 3, 1994, are made part of the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District.

RULE 105 EMISSION STATEMENT

Adopted 4-20-93
(Amended 9-5-96)

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100 GENERAL

- 101 **PURPOSE:** To establish the requirement for submittal of emission statements from specified stationary sources pursuant to the requirements of the 1990 amendments to the federal Clean Air Act [Section 182(a)(3)(B)].
- 110 **EXEMPTION:** Stationary sources which emit (based on actual emissions for the twelve months prior to the reporting period requested) less than twenty-five (25) tons per year of both volatile organic compounds and oxides of nitrogen, each taken separately, are exempt from the requirements of this rule.

200 DEFINITIONS

- 201 **ACTUAL EMISSIONS:** Measured or estimated emissions which most accurately represent the emissions from an emissions unit.
- 202 **AFFECTED POLLUTANTS:** Volatile organic compounds (VOC), and oxides of nitrogen (NO_x).
- 203 **EMISSIONS UNIT:** An identifiable operation or piece of process equipment such as an article, machine, or other contrivance which controls, emits, may emit, or results in the emissions of any affected pollutant directly or as fugitive emissions.
- 204 **RESPONSIBLE OFFICIAL:** An officer of the company or business operating an emissions unit, who is responsible for the completion and certification of the emission statement, and who accepts legal responsibility for the emission statement's accuracy.
- 205 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.

300 STANDARDS

- 301 **EMISSION STATEMENT:**
- 301.1 The owner or operator of any stationary source which emits twenty-five (25) tons or more per year of either oxides of nitrogen or volatile organic compounds shall, annually, provide the District with a written emission statement showing actual emissions of volatile organic compounds and oxides of nitrogen from that source.
- 301.2 The emission statement shall be in a form provided by the Air Pollution Control Officer, and shall contain the following information:
- a. Information contained in the California Air Resources Board's Emission Inventory Turn Around Document as described in Instructions for the Emission Data System Review and Update Report (August, 1991); and
 - b. Actual emissions of volatile organic compounds and oxides of nitrogen, in tons per year, for the calendar year prior to the preparation of the emission statement; and
 - c. Information regarding any seasonal or diurnal peaks in the emission of affected pollutants; and
 - d. Certification by a responsible official of the company that the information contained in the emission statement is accurate to the best knowledge of the individual certifying the emission statement.
- 301.3 After April 20, 1993, the first emission statement shall cover actual emissions of volatile organic compounds and oxides of nitrogen for calendar year 1992, and shall be submitted to the Sacramento Metropolitan Air Quality Management District within 30 days of written notification by the District to submit an

emission statement, but not later than November 15, 1993. Thereafter, Annual Emission Inventory Survey Forms, which will be used to develop the second and subsequent emissions statement, shall be submitted to the District no later than March 15.

- 301.4 The owner or operator of any source subject to this section may comply with the provisions of this section by satisfying either of the following requirements:
- a. Once the owner or operator of a source that is regulated by this rule submits an Annual Emission Inventory Survey Form (by March 15), the District will prepare an emission statement for certification by the responsible official. The responsible official must certify the emission statement and return it to the District within 30 days after the date it was mailed by the District (postmarked date).
 - b. If the owner or operator believes that the information in the emission statement provided by the District is not correct, the owner or operator may revise the emissions information, using a form and methodology approved by the Air Pollution Control Officer. The revised emission information shall be returned to the Air Pollution Control Officer within 30 days of receipt of the emissions statement provided by the District, and the responsible official shall certify that the revised emission information is accurate, to the best knowledge of the individual certifying the statement.

400 ADMINISTRATIVE REQUIREMENTS

401 DISTRICT REQUIREMENTS:

- 401.1 The Air Pollution Control Officer shall prepare an emission statement for each source within the District emitting 25 tons or more per year of either volatile organic compounds or oxides of nitrogen, based on the information contained in the Annual Emission Inventory Survey Form. If not exempted pursuant to Section 110, the Air Pollution Control Officer shall also prepare an emission statement for sources emitting less than twenty-five (25) tons per year of either volatile organic compounds or oxides of nitrogen. The emission statement shall be submitted to the owner or operator of the source on an annual basis, for certification by a company or agency responsible official.
- 401.2 If exempted by Section 110, the Air Pollution Control Officer will provide the California Air Resources Board with an emission inventory for sources emitting more than ten (10) tons per year of either volatile organic compounds or oxides of nitrogen.

- 402 **REVISED EMISSION INFORMATION:** Within 30 days of receipt of revised emissions information submitted pursuant to Section 301.4(b), the Air Pollution Control Officer shall accept or reject the information. If accepted, the revised emissions information shall be submitted to the California Air Resources Board. If the revised emissions information is rejected, it shall be returned to the source owner or operator with the reason(s) for its rejection. Within 30 days of receipt of the rejected information and the reason(s) for its rejection, the source owner or operator shall correct the information and resubmit it to the Air Pollution Control Officer.

- 500 **MONITORING AND RECORDS:** A person subject to this rule shall maintain records used in the preparation of the Annual Emission Inventory Survey Forms for two years and make these records available for review by the Air Pollution Control Officer upon request.

2-685

RULE 201 GENERAL PERMIT REQUIREMENTS

(Amended 11-20-84)

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100 GENERAL

- 101 **PURPOSE:** To provide an orderly procedure for the review of new sources of air pollution and of the modification and operation of existing sources through the issuance of permits.
- 102 **APPLICABLE REQUIREMENTS:** The requirements of this rule shall apply to all rules in this regulation, unless superseded by specific requirements in other rules of this regulation.
- 103 **EXEMPTIONS:** The exemptions contained in this rule shall not apply to any new stationary source or modification as defined in Rule 202 Sections 217 and 226, which would emit any pollutants in excess of the quantities stated in Rule 202 Section 301. An Authority to Construct and Permit to Operate shall not be required for:
- 103.1 Vehicles used to transport passengers or freight, but not including any article, machine, equipment or other contrivance mounted on such vehicle that would otherwise require a permit under provisions of these rules and regulations.
 - 103.2 Internal combustion engines used on other than vehicles for transporting passengers or freight, and fired with natural gas or liquefied petroleum gas, or those having 16 liters (976 cubic inches) cylinder displacement or less and fired with diesel oil or gasoline.
 - 103.3 Equipment utilized exclusively in connection with any structure, which structure is designed for and used exclusively as a dwelling for not more than four families.
 - 103.4 Equipment used exclusively in the growing of agricultural crops, or in the commercial raising of fowl or other animals.
 - 103.5 Refrigeration, air conditioning, ventilating, water cooling towers or vacuum cleaning systems not designed to remove air contaminants generated by equipment which would require a permit under these rules and regulations.
 - 103.6 Steam generators, water boilers, water heaters or space heaters installed and operating before January 1, 1977, fired exclusively by natural gas, liquefied petroleum gas or a combination thereof, or those having a maximum fuel input heating value or less than 12.6 gigacalories per hour (50,000,000 British Thermal Units (BTU) per hour), fired exclusively by natural gas, liquefied petroleum gas or a combination thereof.
 - 103.7 Ovens, kilns, or furnaces fired by electricity, natural gas or liquefied petroleum gas and used exclusively for:
 - a. Heating, softening, drying, curing or annealing of vitreous enamel, porcelain enamel or plastics;
 - b. Curing of plastics which are concurrently being vacuum held to a mold;
 - c. Curing of vinyl plastisols by the closed mold curing process;
 - d. Curing of potting materials or castings made with epoxy resins;
 - e. Heat treating of glass or the firing of ceramic ware;
 - f. Heat treating of metals including atmospheric generation.
 - 103.8 The following equipment used to melt metals;

- a. Brazing; soldering or welding systems;
 - b. Crucibles, pots or induction furnaces with a capacity of 450 kilograms (992 pounds) of metal or less, in which no sweating, distilling or chlorination is conducted, and from which aluminum, magnesium, lead, tin or zinc in a concentration of more than 50 percent by weight or copper or precious metals is poured or held in molten state;
 - c. Crucibles or pots with a brimful capacity of 7.5 liters (458 cubic inches) each of any molten metal.
- 103.9 Mechanical equipment used for:
- a. Handling or processing plastic, rubber (except automatic or semi-automatic tire buffing), ceramic ware, leather or solid metals, all of which there is no dry sanding or surface blasting conducted and in which no organic solvents or coatings are used;
 - b. Milling or grinding of coating and molding compounds, where all materials are charged in paste form;
 - c. Casting metals and foundry mold-forming to which no heat is applied;
 - d. Curing of rubber or plastic products including laminating platen.
- 103.10 Tanks, reservoirs, vessels or other containers and their associated dispensing, pumping and compression systems used exclusively for the storage of:
- a. Liquefied or compressed gases;
 - b. Unheated organic materials with an initial boiling point of 150 degrees Celsius (302 degrees Fahrenheit) or greater;
 - c. Organic liquids, except gasoline, normally used as solvents, diluents, thinners, inks, colorants, paints, lacquers, enamels, varnishes, liquid resins or other surface coatings, and having a capacity of 23,000 liters (6076 gallons or less);
 - d. Unheated solvent dispensing containers, unheated non-conveyorized solvent rinsing containers or unheated non-conveyorized coating dip tanks of 380 liters (100 gallons) capacity or less;
 - e. Gasoline and having a capacity of less than 950 liters (251 gallons);
 - f. Fuel oil with a gravity of 25 degrees API or lower, or with a gravity of 40 degrees API or lower and having a capacity of 38,000 liters (10,038 gallons) or less;
 - g. Liquid soaps, liquid detergents, greases, vegetable oils, wax emulsions, asphalt and lubricating oils including the manufacturing of water emulsions and water based adhesives
 - h. Oils, waxes, greases, natural or synthetic resins which contain no organic solvents, diluents or thinners and which are used in dipping operation for coating objects;
 - i. Sulfuric acid or phosphoric acid of 99 percent or less by weight, or nitric acid of 70 percent or less by weight, and being fresh commercial grade or purer;
 - j. Materials transported on streets or highways.
- 103.11 Water solution for surface preparation, cleaning, stripping, etching (other than chemical milling) or the electrolytic plating with electrolytic polishing of, or the electrolytic

- stripping of brass, bronze, cadmium, copper, iron lead, nickel, tin, zinc, and precious metals.
- 103.12 The following processing equipment for food or other human consumables and exhaust system or collectors serving exclusively such equipment:
- Used in eating establishments for the purpose of preparing food for human consumption.
 - Smokehouses in which the maximum horizontal inside cross sectional area does not exceed 2 square meters (21.5 square feet);
 - Ovens, mixers and blenders used in bakeries;
 - Confection cookers;
 - Used exclusively to grind, blend or package tea, cocoa, spices, or roasted coffee.
- 103.13 The following equipment used in material cleaning or conditioning:
- Laundry drying, extracting or tumbling in fabric cleaning only with water solutions of bleach or detergents, or lint traps used exclusively with fabric drying or dry cleaning equipment;
 - Dyeing or stripping (bleaching) of textiles where no organic solvents are used;
 - Washing or drying products fabricated from metal or glass where no volatile organic materials are used in the process and no oil or solid fuel is burned;
 - Steam cleaning.
- 103.14 Miscellaneous equipment:
- Laboratory equipment used exclusively for chemical or physical analysis and bench scale tests, including associated vacuum-producing equipment.
 - Photographic processing by which an image is reproduced upon material sensitized by radiant energy;
 - Printing presses without dryers including sheet fed printing presses;
 - Hydraulic or hydrostatic testing.
- 103.15 Structural changes which cannot change the quality, nature, or quantity of air contaminant emissions.
- 103.16 Repairs, maintenance or identical replacement not involving changes to any equipment for which a permit has been granted under Section 301 of this rule.
- 103.17 Other equipment deemed by the Air Pollution Control Officer to emit insignificant amount of air contaminants.

200 DEFINITIONS

- 201 STATE AMBIENT AIR QUALITY STANDARDS: All references in Rule 202 to national ambient air quality standards shall be interpreted to include state ambient air quality standards.

300 STANDARDS

- 301 AUTHORITY TO CONSTRUCT: Any person building, erecting, altering or replacing any article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air

contaminants, shall first obtain authorization for such construction for the Air Pollution Control Officer as specified in Section 403 of this rule. An authority to construct shall remain in effect until a permit to operate the equipment is granted or denied or the application is cancelled. An authority to construct shall expire two years from the date of issuance. If a written request to extend the authority to construct is received by the Air Pollution Control Officer prior to the expiration of the authority to construct, an extension may be granted for two years if the Air Pollution Control Officer determines that: (1) a good faith effort to complete the project has been made, and (2) the parameters of the project remain the same as in the initial application.

302 **PERMIT TO OPERATE:** No article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, may be operated or used until a written permit is obtained from the Air Pollution Control Officer. No permit to operate or use shall be granted either by the Air Pollution Control Officer or the Hearing Board for any article, machine, equipment or contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, constructed or installed without authorization as required by Section 301 of this rule, until the information required is presented to the Air Pollution Control Officer and such article, machine, equipment or contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, is altered, if necessary, and made to conform to the standards set forth in Section 303 of this rule and elsewhere in these rules and regulations.

303 **STANDARDS FOR GRANTING APPLICATIONS:**

303.1 The Air Pollution Control Officer shall deny an authority to construct or permit to operate, except as provided in Rule 202 if the applicant does not show that every article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants, is so designed, controlled or equipped with such air pollution control equipment that it may be expected to operate without emitting or without causing to be emitted air contaminants in violation of these rules and regulations or of such state or federal statutes as may be enforceable by the Air Pollution Control Officer.

303.2 Before an authority to construct or permit to operate is granted, the Air Pollution Control Officer may require the applicant to provide, maintain, and operate such facilities as are necessary for sampling, testing and air monitoring purposes in order to secure information that will disclose the nature, extent, quantity or degree of air contaminants discharged into the atmosphere from the article, machine, equipment or other contrivance described in the authority to construct or permit to operate. In the event of such a requirement, the Air Pollution Control Officer shall notify

the applicant in writing of the required size, number and location of sampling holes; the size and location of the sampling platform; the access to the sampling platform; and the utilities for operating the sampling and testing and air monitoring equipment. Such platform and access shall be constructed in accordance with the applicable General Industry Safety Orders of the State of California.

303.3 In acting upon a permit to operate, if the Air Pollution Control Officer finds that the article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, has not been constructed in accordance with the authority to construct, he shall deny the permit to operate. The Air Pollution Control Officer shall not accept any further application for permit to operate the article, machine, equipment, or other contrivance so constructed until he finds that the article, machine, equipment or other contrivance has been reconstructed in accordance with the authority to construct.

304 **IMPLEMENTATION PLANS:** The Air Pollution Control Officer may issue a permit to construct for a new stationary source or modification which is subject to Rule 202 only if all District regulations contained in the State Implementation Plan approved by the United States Environmental Protection Agency are being carried out in accordance with that plan.

305 **TRANSFER:** An authority to construct or permit to operate shall not be transferable, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another, or from one person to another. In the event any person contemplates or desires to make any such transfer as herein above described, said person shall make application for authorization in accordance with Section 403 of this rule.

400 ADMINISTRATIVE REQUIREMENTS

401 **POSTING:** A person who has been granted a permit to operate any article, machine, equipment, or other contrivance described in Section 302 of this rule shall maintain a copy of said permit on the subject premises, and such permit, as well as other information, analysis, plans or specifications as will disclose the nature, extent, quantity, or degree of air contaminants which are or may be discharged from such source shall be readily available for inspection by the Air Pollution Control Officer.

402 **MODIFICATIONS:** A person shall not willfully deface, alter, forge, counterfeit, or falsify a permit to operate any article, machine, equipment, or other contrivance described in Section 302 of this rule.

403 **APPLICATIONS:** An application for an authority to construct or permit to operate shall be filed in the manner and form prescribed by the Air Pollution Control Officer, and shall give all the

information necessary to enable the Air Pollution Control Officer to make the determination required by Section 303 of this rule and Rule 202. When the information submitted with the application is insufficient for the Air Pollution Control Officer to make the determination required by Section 302 of this rule and Rule 202, additional information, plans, or specifications shall be submitted by the applicant as requested.

- 404 **ACTION ON APPLICATIONS:** The Air Pollution Control Officer shall notify the applicant in writing of his approval, conditional approval or denial of the application for authority to construct or permit to operate.
- 404.1 In the event said notification is not received by applicant within 30 days of the filing of the application, or within 30 days of providing further information as required by Section 403, the applicant may, at his option, deem the application to construct or permit to operate denied.
- 405 **CONDITIONAL APPROVAL:** The Air Pollution Control Officer may issue an authority to construct or a permit to operate subject to conditions which will bring the operation of any article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants within the standards of Section 303 of this rule in which case the conditions shall be specified in writing. Commencing work under such an authority to construct or operation under such a permit to operate shall be deemed acceptance of all the conditions so specified. The Air Pollution Control Officer shall issue an authority to construct or a permit to operate with revised conditions upon receipt of a new application if the applicant demonstrates that the article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants, can operate within the standards of Section 303 of this rule under the revised conditions.
- 406 **DENIAL OF APPLICATION:** In the event of denial of an authority to construct or permit to operate, the Air Pollution Control Officer shall notify the applicant in writing of the reasons therefore. Service of this notification may be made in person or by mail, and such service may be proved by the written acknowledgement of the persons served or affidavit of the person making the service. The Air Pollution Control Officer shall not accept a further application unless the applicant has complied with the objections specified by the Air Pollution Control Officer as his reasons for denial of the authority to construct or the permit to operate.
- 407 **APPEALS:** Within ten days after notice, by the Air Pollution Control Officer, of denial, or conditional approval of an authority to construct or permit to operate, the applicant or any other person dissatisfied with the decision may petition the Hearing Board, in writing, for an order modifying or reversing that decision. The Hearing Board after notice and a public hearing held within thirty days after filing the petition, may sustain or reverse the action of the Air Pollution Control Officer; such order may be made subject to specified conditions.

RULE 203 PREVENTION OF SIGNIFICANT DETERIORATION**Adopted 2-26-91
(Amended 1-27-11)****100 GENERAL**

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- 104 EXCLUSION, GENERAL
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100 GENERAL

- 101 **PURPOSE:** The Prevention of Significant Deterioration (PSD) program is a construction permitting program for new major facilities and major modifications to existing major facilities located in areas classified as attainment or in areas that are unclassifiable for any regulated NSR pollutant including greenhouse gases. The intent of this Rule is to incorporate the federal PSD rule requirements into the District's Rules and Regulations by incorporating the federal requirements by reference.
- 102 **APPLICABILITY:** The provisions of this rule shall apply to any source and the owner or operator of any source subject to any requirement under Title 40 Code of Federal Regulations (hereinafter, CFR) Part 52.21 as incorporated into this rule. Whenever any source is subject to more than one rule, regulation, provision, or requirement relating to the control of any regulated NSR pollutant, in cases of conflict or duplication, the most stringent rule, regulation, provision, or requirement shall apply. The applicability procedures contained in 40 CFR 52.21(a)(2) are replaced with the following language:
- 102.1 No stationary source or modification to which the requirements of subsections (j) through (r) of 40 CFR Part 52.21 apply shall begin actual construction without a District permit stating that the stationary source or modification would meet those requirements.
- 102.2 The requirements of subsections (j) through (r) of 40 CFR Part 52.21 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the Act that it would emit, except as this section otherwise provides.
- 102.3 The requirements of subsections (j) through (r) of 40 CFR Part 52.21 apply only to any major stationary source or major modification that would be constructed in an area designated as attainment or unclassifiable under U.S. Code section 7407(d) or (e).
- 102.4 In determining whether a stationary source or modification is major, fugitive emissions from an emissions unit are included only if the emissions unit is part of one of the source categories listed in 40 CFR 52.21(b)(1)(iii) or if the emission unit is located at a stationary source that belongs to one of the source categories listed in 40 CFR 52.21(b)(1)(iii). Fugitive emissions are not included for those emissions units located at a facility whose primary activity is not represented by one of the source categories listed in 40 CFR 52.21(b)(1)(iii) and that are not, by themselves, part of a listed source category.
- 103 **INCORPORATION BY REFERENCE:** Except as provided in Section 104, the provisions of Title 40 of the Code of Federal Regulations (CFR) Part 52.21, in effect on (date of adoption), are incorporated herein by reference and made part of the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District. All references to 40 CFR 52.21 in this Rule refer to the CFR in effect on (date of adoption).
- 104 **EXCLUSION, GENERAL:** The following subsections of 40 CFR Part 52.21, in effect (date of adoption), as well as all references to these subsections or the terms defined in these subsections, are excluded in their entirety: (a)(1), (b)(55-58), (f), (g), (i)(1)((i-v) and (ix-xi)), (i)(6-8), (p)(6-8), (q), (s), (t), (u), (v), (w), (x), (y), (z), (aa), and (cc).
- 105 **EXEMPTION, GREENHOUSE GAS AIR QUALITY ANALYSES:** Greenhouse gas emissions shall not be subject to the requirements of subsections (k) or (m) of 40 CFR Part 52.21 in effect on (date of adoption).
- 200 **DEFINITIONS:** Unless otherwise defined below, the terms used in this rule are defined in 40 CFR Part 52.21(b) in effect on (date of adoption):

- 201 **ACTUAL EMISSIONS:** The definition of “actual emissions” contained in 40 CFR 52.21(b)(21) is revised to read as set forth below whenever reference is made to that term or 40 CFR 52.21(b)(21):
- 201.1 Actual emissions means the actual rate of emissions of a pollutant from an emissions unit, as determined in accordance with Sections 201.2 through 201.4 of this rule.
- 201.2 In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal source operation. The Administrator shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit’s actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.
- 201.3 The Administrator may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.
- 201.4 For any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.
- 202 **ADMINISTRATOR:** The term “administrator” means:
- 202.1 “Federal administrator” in 40 CFR 52.21(b)(17), (b)(37)(i), (b)(43), (b)(48)(ii)(c), (b)(50)(i), (b)(51), (l)(2) and (p)(2); and
- 202.2 “Air Pollution Control Officer” elsewhere.
- 203 **ALLOWABLE EMISSIONS:** The definition of “allowable emissions” contained in 40 CFR 52.21(b)(16) is revised to read as set forth below whenever reference is made to that term or 40 CFR 52.21(b)(16):
- 203.1 The phrase “unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both” shall read, “unless the source is subject to enforceable limits that restrict the operating rate, or hours of operation, or both.”
- 203.2 Paragraph (iii) shall read as follows: “The emissions rate specified as an enforceable permit condition, including those with a future compliance date.”
- 204 **BASELINE ACTUAL EMISSIONS:** The definition of “baseline actual emissions” contained in 40 CFR 52.21(b)(48) is revised to read as set forth below whenever reference is made to that term or 40 CFR 52.21(b)(48):
- 204.1 Baseline actual emissions means the actual rate of emissions of a pollutant from an emissions unit, as determined in accordance with Sections 204.2 through 204.4 of this rule.
- 204.2 In general, baseline actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a 24 month period which precedes the particular date and which is representative of normal source operation. The Administrator shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Baseline actual emissions shall be calculated using the unit’s actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.
- 204.3 For any emissions unit which has not begun normal operations on the particular date, baseline actual emissions shall equal the potential to emit of the unit on that date.
- 205 **MAJOR MODIFICATION:** The definition of “major modification” contained in 40 CFR 52.21(b)(2) is revised to read as set forth below whenever reference is made to that term or 40 CFR 52.21(b)(2):

- 205.1 Major modification means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.
- 205.2 Any net emissions increase that is significant for volatile organic compounds shall be considered significant for ozone.
- 205.3 A physical change or change in the method of operation shall not include:
- a. Routine maintenance, repair and replacement;
 - b. Use of an alternative fuel or raw material by reason of an order under sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plant pursuant to the Federal Power Act;
 - c. Use of an alternative fuel by reason of an order or rule under section 125 of the Act;
 - d. Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;
 - e. Use of an alternative fuel or raw material by a stationary source which:
 1. The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975 pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR subpart I or 40 CFR 51.166; or
 2. The source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166;
 - f. An increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR subpart I or 40 CFR 51.166.
 - g. Any change in ownership at a stationary source.
 - h. Fugitive emissions shall not be included in determining for any of the purposes of this section whether a physical change in or change in the method of operation of a major stationary source is a major modification, unless the source belongs to one of the source categories listed in paragraph 40 CFR Part 52.21(b)(1)(iii).
- 206 **NET EMISSIONS INCREASE:** The definition of "net emissions increase" contained in 40 CFR 52.21(b)(3) is revised to read as set forth below whenever reference is made to that term or 40 CFR 52.21(b)(3):
- 206.1 Net emissions increase means the amount by which the sum of the following exceeds zero:
- a. Any increase in actual emissions from a particular physical change or change in method of operation at a stationary source; and
 - b. Any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.
- 206.2 An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between:
- a. The date five years before construction on the particular change commences; and
 - b. The date that the increase from the particular change occurs.
- 206.3 An increase or decrease in actual emissions is creditable only if the Administrator has not relied on it in issuing a permit for the source under this section, which permit is in effect when the increase in actual emissions from the particular change occurs.

- 206.4 An increase or decrease in actual emissions of sulfur dioxide, particulate matter, or nitrogen oxide, which occurs before the applicable minor source baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available. With respect to particulate matter, only PM-10 emissions can be used to evaluate the net emissions increase for PM-10.
- 206.5 An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
- 206.6 A decrease in actual emissions is creditable only to the extent that:
- The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;
 - It is federally enforceable at and after the time that actual construction on the particular change begins; and
 - It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.
- 206.7 [Reserved]
- 206.8 An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.
- 207 **PARAGRAPH (q):** The phrase “paragraph (q) of this section” in 40 CFR 52.21(p)(1) shall read as follows: within ten calendar days following a preliminary decision pursuant to Section 300, Standards, of this rule, the Air Pollution Control Officer shall publish in at least one newspaper of general circulation in the District a notice stating the preliminary decision of the Air Pollution Control Officer, noting how pertinent information can be obtained, and inviting written public comment for a 30-day period following the date of publication. The notice shall include the time and place of any hearing that may be held, including a statement of procedure to request a hearing (unless a hearing has already been scheduled). The Air Pollution Control Officer shall give notice of any public hearing at least 30 days in advance of the hearing.
- 208 **POTENTIAL TO EMIT:** The definition of “potential to emit” contained in 40 CFR 52.21(b)(4), is revised so that the phrase “is federally enforceable” shall read “is federally enforceable or enforceable as a practical matter.”

300 STANDARDS

301 REQUIREMENTS

- 301.1 An owner or operator must obtain a Prevention of Significant Deterioration (PSD) permit pursuant to this Rule before beginning actual construction of a new major stationary source or a major modification as defined in 40 CFR 52.21(b).
- 301.2 Notwithstanding the provisions of any other District Rule or Regulation, the Air Pollution Control Officer shall require compliance with this rule prior to issuing a federal Prevention of Significant Deterioration permit as required by Clean Air Act (CAA) Section 165.
- 301.3 The applicant shall pay the applicable fees specified in Rule 301 – PERMIT FEES – STATIONARY SOURCE.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **PUBLIC PARTICIPATION:** Prior to issuing a federal PSD permit pursuant to this rule and after receipt of a complete application, the Air Pollution Control Officer shall:
- 401.1 Make a preliminary determination whether construction should be approved with conditions or disapproved.

- 401.2 Make available for public inspection at the District office a copy of the preliminary determination, a copy of the proposed permit and a copy or summary of other materials, if any, considered in making the preliminary determination.
- 401.3 Notify the public, by notice in at least one newspaper of general circulation in the District, of the application, the preliminary determination, the degree of increment consumption that is expected from the source or modification, and of the opportunity for written public comment.
- 401.4 Send a copy of the notice of public comment to the applicant, EPA Region 9, any persons requesting such notice and any other interested parties such as: Any other State or local air pollution control agencies, the chief executives of the city 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.
- 401.5 Provide opportunity for a public hearing for persons to appear and submit written or oral comments on the air quality impact of the source, alternatives to it, the control technology required, and other appropriate considerations, if in the Air Pollution Control Officer's judgment such a hearing is warranted.
- 401.6 Consider all written comments that were submitted within 30 days after the notice of public comment is published and all comments received at any public hearing(s) in making a final decision on the approvability of the application and make all comments available for public inspection in the same locations where the District made available preconstruction information relating to the proposed source or modification.
- 401.7 Make a final determination whether construction should be approved with conditions or disapproved.
- 401.8 Notify the applicant in writing of the final determination and make such notification available for public inspection at the same location where the District made available preconstruction information and public comments relating to the source.

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RULE 214 – FEDERAL NEW SOURCE REVIEW**Adopted 10-28-10****(Amended 8-23-12)****INDEX****100 GENERAL**

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500 MONITORING AND RECORDS (NOT INCLUDED)

100 **GENERAL**

101 **PURPOSE:** The purpose of this rule is to provide for the issuance of authorities to construct and permits to operate at new and modified major stationary air pollution sources and to provide mechanisms, including emission offsets, by which authorities to construct such sources may be granted without interfering with the attainment or maintenance of ambient air quality standards.

101.1 A facility in possession of a valid Title V Operating Permit issued pursuant to Rule 207, TITLE V - FEDERAL OPERATING PERMIT PROGRAM, seeking a permit for a new emissions unit or a modified emissions unit which qualifies as a Title V modification, may choose to have their permit reviewed through an Enhanced New Source Review process, thereby meeting all the procedural requirements specified in Sections 401 through 408 of Rule 207, TITLE V - FEDERAL OPERATING PERMIT PROGRAM and the compliance requirements in Section 305 of Rule 207, TITLE V - FEDERAL OPERATING PERMIT PROGRAM. The Title V Operating Permit may be amended administratively to reflect this permitting action.

102 **APPLICABILITY:** This rule shall apply to emissions units located at new and modified major stationary sources which are subject to Rule 201, GENERAL PERMIT REQUIREMENTS, except that emissions units exempted by Rule 201 must be included in the potential to emit of the stationary source unless the emissions unit emits less than 2 pounds per day of each pollutant. This rule shall not apply to prescribed burning of forest, or range land, road construction or any other non-stationary source common to timber harvesting. This Section 102 shall not be used to exempt any stationary source or modification, which would be subject to review under U.S. Environmental Protection Agency regulations, from permit requirements.

The Enhanced New Source Review process applies only to facilities in possession of a valid Title V Operating Permit, which are installing a new emissions unit or performing a Title V modification as defined in Rule 207, TITLE V - FEDERAL OPERATING PERMIT PROGRAM, and which have specifically requested in writing, in the permit application package, to have the application reviewed pursuant to the Enhanced New Source Review process.

If any source or modification becomes a major stationary source or major modification as defined in Sections 227 and 228 solely by virtue of a relaxation in any federally enforceable limitation which was established after August 7, 1980, on a capacity of the source or modification to emit a federal nonattainment pollutant or its precursor such as a restriction on hours of operation, then the requirements of this rule shall apply to such a source or modification as though construction had not yet commenced on the source or modification.

Note: All sources subject to this rule are also subject to Rule 217, PUBLIC NOTICE REQUIREMENTS FOR PERMITS.

103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect to the extent allowed by law.

110 **EXEMPTION: EMERGENCY EQUIPMENT:** The Air Pollution Control Officer shall exempt an emissions unit from the requirements of Sections 302 and 303, unless installation of such equipment would result in a major modification, or be a major stationary source, in and of itself; and if it would provide emergency electrical power, emergency water pumping for flood control or fire fighting, emergency potable water pumping, or emergency sewage pumping provided the following requirements are met.

- 110.1 Operation for maintenance purposes shall not exceed 100 hours per year, and such maintenance shall be scheduled in cooperation with the District so as to limit air quality impact, and
- 110.2 Operation of the equipment shall not exceed a total of 200 hours per year, including maintenance operation, and
- 110.3 Operation of the equipment shall not be for supplying power to a serving utility for distribution on the grid, and
- 110.4 Operation for other than maintenance purposes shall be limited to actual interruptions of electrical power by the serving utility, emergency water pumping for flood control or fire fighting, emergency potable water pumping, or emergency sewage pumping, or
- 110.5 Operation for other than maintenance purposes shall be limited to maintaining the safety and preserving the integrity of nuclear power generating systems.

111 **[RESERVED]**

112 **EXEMPTION: NON-MAJOR AGRICULTURAL STATIONARY SOURCE AND NON-MAJOR MODIFICATIONS:** An agricultural stationary source that is not a major stationary source or is not making a major modification is exempt from the requirements of this rule.

113 **EXEMPTION: REPLACEMENT EQUIPMENT:** The requirements of Sections 302 and 303 shall not apply to replacement equipment where

113.1 The replacement unit(s) is an identical emissions unit(s); or

113.2 The replacement unit(s) is not a major source or major modification and serves the identical function as the unit(s) being replaced where the maximum rating and the potential to emit any pollutant will not be greater from the new or modified emission unit(s) than the replaced units, and the emission increase calculated pursuant to Section 411.1 does not exceed the following levels:

<u>Pollutant</u>	<u>lb/day</u>
Volatile organic compounds	136
Nitrogen oxides	136
Sulfur oxides	150
PM10	80

This exemption does not apply to the replacing of air pollution control equipment pursuant to Section 229.3e.

114 **EXEMPTION: RULE COMPLIANCE:** The requirements of Sections 302 and 303 shall not apply to modifications necessary to comply with standards contained in Regulation 4, PROHIBITIONS, or in the State Implementation Plan. Where more than one compliance option is allowed, this exemption only applies to the emissions resulting from the least emissive option. The incremental emissions difference between the least emissive option and the selected option must comply with Sections 302 and 303. This exemption shall not apply to modifications in production rate, hours of operation, or other changes or additions to existing equipment not necessary for compliance with standards contained in District Regulation 4, PROHIBITIONS, or in the State Implementation Plan. This exemption also does not apply if the modifications for compliance with standards contained in Regulation 4, PROHIBITIONS, or the State Implementation Plan are major modifications under the United States Environmental Protection Agency regulations promulgated pursuant to Title I of the Federal Clean Air Act, including 40 CFR Part 51.

115 **EXEMPTION: ALTERNATIVE SITING:** If the permit applicant demonstrates that a proposed modification to an existing stationary source would not constitute a Federal Major Modification, the application for Authority to Construct such modification shall not be subject to Section 401, Alternative Siting.

- 116 **EXEMPTION: ATTAINMENT POLLUTANTS:** The requirements of this rule shall not apply to any regulated air pollutant or precursors to that pollutant that Sacramento County has been designated or re-designated as attainment or is unclassified for the federal National Ambient Air Quality Standard as codified in 40 CFR 81.305.
- 117 **EXEMPTION: VISIBILITY ANALYSIS:** The requirements of Sections 309 and 413 shall not apply to any non-major modification.
- 200 **DEFINITIONS:** Unless otherwise defined below, the terms in this rule are defined in Rule 101, GENERAL PROVISIONS AND DEFINITIONS, Rule 201, GENERAL PERMIT REQUIREMENTS, Rule 204, EMISSION REDUCTION CREDITS, and Rule 207, TITLE V - FEDERAL OPERATING PERMIT PROGRAM.
- 201 **ACTUAL EMISSIONS:** Measured or estimated emissions which most accurately represent the emissions from an emissions unit.
- 202 **ACTUAL INTERRUPTIONS OF ELECTRICAL POWER:** When electrical service is interrupted by an unforeseeable event.
- 203 **AMBIENT AIR QUALITY STANDARDS:** National ambient air quality standards established pursuant to 42 U.S.C Section 7409 of the Federal Clean Air Act.
- 204 **BEGIN ACTUAL CONSTRUCTION:** Initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework and construction of permanent storage structures. With respect to a change in method of operation that does not involve a physical change, this term refers to those on-site activities other than preparatory activities which mark the start of the change in the method of operation.
- 205 **BEST AVAILABLE CONTROL TECHNOLOGY (BACT):**
- 205.1 For any emissions unit the most stringent of:
- a. The most effective emission control device, emission limit, or technique, singly or in combination, which has been required or used for the type of equipment comprising such an emissions unit unless the applicant demonstrates to the satisfaction of the Air Pollution Control Officer that such limitations required on other sources have not been demonstrated to be achievable in practice.
- b. Any alternative basic equipment, fuel, process, emission control device or technique, singly or in combination, determined to be technologically feasible and cost-effective by the Air Pollution Control Officer.
- 205.2 In making a BACT determination for each nonattainment pollutant the Air Pollution Control Officer may consider the overall effect of the determination on other regulated air pollutants. In some cases the lowest emission rates may be required for one or more regulated air pollutants at the cost of not achieving the lowest emission rate for other pollutants. The Air Pollution Control Officer shall discuss these considerations in the Preliminary Decision prepared pursuant to Section 405.
- 205.3 Under no circumstances shall BACT be determined to be less stringent than the emission control required by any applicable provision of District, state or federal laws or regulations, or contained in the implementation plan of any State for such class or category of stationary source unless the applicant demonstrates to the satisfaction of the Air Pollution Control Officer that such limitations are not achievable.
- 206 **CARGO CARRIERS:** Cargo carriers are trains dedicated to a specific source.

- 207 **CEQA:** The California Environmental Quality Act, Public Resources Code, Section 21000, et seq.
- 208 **CLASS I AREA:** Any area listed as Class I in 40 CFR Part 81 Subpart D, including Section 81.405, or an area otherwise specified as Class I in the legislation that creates a national monument, a national primitive area, a national preserve, a national recreational area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore.
- 209 **COMMENCING OPERATION:** Emissions unit becomes operational and begins to emit a regulated air pollutant.
- 210 **CONSTRUCTION COMMENCES:** A person has all necessary preconstruction approvals or permits and either has:
- 210.1 Begun, or caused to begin, a continuous program of actual on-site construction of the stationary source, to be completed within a reasonable time; or
- 210.2 Entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.
- 211 **CONTIGUOUS PROPERTY:** Two or more parcels of land with a common boundary or separated solely by a public roadway or other public right-of-way.
- 212 **COST-EFFECTIVE:** A cost per unit of emissions reduction which is lower than or equivalent to the maximum unit costs, for the regulated air pollutant or source category, of the same emission reduction through the use of Best Available Control Technology, calculated in current year dollars, in accordance with methodology and criteria specified in the BACT Policy developed by the District. Cost effectiveness consideration shall not apply to stationary sources that are a major stationary source or major modification.
- 213 **CREDITABLE INCREASES AND DECREASES:**
- 213.1 An increase or decrease in actual emissions is creditable only if:
- a. It occurs between:
1. the date five years before construction commences on the project and
2. the date the project commences operation; and
- b. The Air Pollution Control Officer has not relied on it in issuing a permit which permit is in effect when the increase in actual emissions from the particular change occurs.
- 213.2 An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
- 213.3 A decrease in actual emissions is creditable only to the extent that:
- a. The old level of actual emission or the old level of allowable emissions whichever is lower, exceeds the new level of actual emissions;
- b. It is enforceable as a practical matter and federally enforceable at and after the time that actual construction on the particular change begins; and
- c. The Air Pollution Control Officer has not relied on it in issuing any permit under regulations approved pursuant to 40 CFR part 51 subpart I or the State has not relied on it in demonstrating attainment or reasonable further progress;
- d. It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

- 213.4 An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.
- 214 **EMISSION INCREASE:** An increase calculated pursuant to Section 411.
- 215 **EMISSION OFFSET:** An emission reduction credit that compensates for an emission increase of a regulated air pollutant from a new or modified source subject to the requirements of Sections 302 and 303.
- 216 **EMISSIONS LIMITATION:** One or more permit conditions specific to an emissions unit which restricts its maximum emissions, at or below the emissions associated with the maximum design capacity and,
- 216.1 Contained in and enforceable by the latest Authority to Construct and Permit to Operate for the emissions unit, and
- 216.2 Enforceable pursuant to Section 408, and
- 216.3 Enforceable on a daily, quarterly, and where applicable, annual basis.
- 217 **EMISSIONS UNIT:** An identifiable operation or piece of process equipment such as an article, machine, or other contrivance which controls, emits, may emit, or results in the emissions of any regulated air pollutant or hazardous air pollutant (HAP), directly or as fugitive emissions. Emissions unit shall not include the open burning of agricultural biomass.
- 218 **EXISTING EMISSIONS UNIT:** Any emissions unit that is not a new emissions unit.
- 219 **FEDERAL LAND MANAGER:** The Secretary of the Department with authority over the specified federal lands.
- 220 **FEDERAL MAJOR MODIFICATION:** Exclusively for the purpose of Section 115, a Major Modification as defined in 40 CFR Section 51.165(a)(1)(v) (July 1, 2010 edition).
- 220.1 All terms used in the definition of Major Modification shall be as defined in 40 CFR 51.165(a)(1)(v), except that:
- a. the term "reviewing authority" as used in that Section shall mean the Sacramento Metropolitan Air Quality Management District;
- b. the term "major stationary source" as used in that Section means a Major Stationary Source as defined in Section 228; and
- c. the term "significant" as used in that Section means a rate of emissions that would equal or exceed the rates specified in Section 227.
- 221 **FEDERALLY ENFORCEABLE:** All limitations and conditions which are enforceable by EPA, including:
- 221.1 Requirements developed pursuant to 40 CFR Parts 60 (NSPS), 61 (NESHAP), 63 (NESHAP), 70 (State Operating Permit Programs), and 72 (Permits Regulation, Acid Rain);
- 221.2 Requirements contained in the State Implementation Plan (SIP), that are applicable to the District; and
- 221.3 District permit requirements established pursuant to the District's new source review rules in the SIP.
- 222 **FUGITIVE EMISSIONS:** Those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.
- 223 **HAZARDOUS AIR POLLUTANT (HAP):** Any air pollutant listed pursuant to Section 112(b) (42 U.S.C Section 7412(b) of the Federal Clean Air Act).

- 224 **HISTORIC ACTUAL EMISSIONS:**
- 224.1 **Existing emissions units:** Historic actual emissions for the existing emissions unit averaged over the two year period immediately preceding the date of application for an Authority to Construct.
- a. If the last two years are unrepresentative of normal source operations as determined by the Air Pollution Control Officer, then any two consecutive years of the last five years that represent normal source operation may be used.
 - b. The daily Historic Actual Emissions for each calendar quarter equals the actual emissions for the calendar quarter divided by the total number of actual operating days. If there are no records for actual operating days, then use the number of permitted operating days or calendar days, whichever is less.
 - c. If, at any time during the two year period, actual emissions exceeded allowed or permitted emission levels, then actual emissions shall be reduced to reflect the levels that would have occurred if the unit were in compliance with all applicable limitations and rules.
 - d. If less than two years has passed since the date of commencing operation under an issued Permit to Operate or an Authority to Construct then the historic actual emissions, for the purpose of this rule, shall be the potential to emit.
- 224.2 **New emissions unit:** Zero.
- 225 **HISTORIC POTENTIAL EMISSIONS:** The historic potential emissions shall be:
- 225.1 **New Emissions Unit:** Zero.
- 225.2 **Emissions units not part of a major modification as defined in Section 227:**
- a. **When determining BACT applicability, existing emissions units that had enforceable daily emissions limits on the Authority to Construct or Permit to Operate prior to modification:** The potential to emit of the emissions unit prior to modification as represented by the enforceable daily limiting condition on the permit.
 - b. **When determining quarterly offsets trigger and quantity of offsets required existing emissions units that had enforceable quarterly emissions limits on the Authority to Construct or Permit to Operate prior to modification:** The potential to emit of the emissions unit prior to modification as represented by the enforceable quarterly limiting condition on the permit.
 - c. **When determining daily offsets trigger at Peaking Power Plants, or for when determining the daily limit specified in Section 303.2, existing emissions units that had enforceable daily emissions limits on the Authority to Construct or Permit to Operate prior to modification:** The potential to emit of the emissions unit prior to modification as represented by the enforceable daily limiting conditions on the permit.
- 225.3 **All other Emission Units:**
- a. The historic potential emissions equal to the enforceable potential to emit limit contained in the most recent Authority to Construct or Permit to Operate, if any of the following criteria are met:
 - i. Actual emissions are at least 80% of the potential to emit limit, or
 - ii. The emissions unit was fully offset for any emission increase. If the emissions increase from the project, including the emissions unit being evaluated, will result in a major source in and of itself, as defined in Section 228, or a major modification, as defined in Section 227, then the offset of the nonattainment pollutant for the emissions unit must have occurred during the 5 year period prior to the date that the application is deemed complete, otherwise this provision is not applicable; or
 - b. The historic actual emissions as defined in Section 224.1.

- 226 **IDENTICAL EMISSIONS UNIT:** A replacement emissions unit which is the same as the original unit in all respects except for serial number.
- 227 **MAJOR MODIFICATION:** Any physical change, change in method of operation (including change in fuel), or addition, to a stationary source classified as a major source for:
- 227.1 VOC or NOx emissions, which result in an emission increase for the project as determined by Section 411.5, which when aggregated with all other creditable increases and decreases in emissions from the source is equal to or exceeding any of the following thresholds:
 - a. 25 tons per year of volatile organic compounds;
 - b. 25 tons per year of nitrogen oxides; or
 - 227.2 PM10 or a PM10 precursor emissions, which result in an emission increase for the project as determined by Section 411.5, which when aggregated with all other creditable increases and decreases in emissions from the source is equal to or exceeding any of the following thresholds:
 - a. 40 tons per year of volatile organic compounds;
 - b. 40 tons per year of nitrogen oxides;
 - c. 40 tons per year of sulfur oxides; or
 - d. 15 tons per year of PM10.
 - 227.3 PM2.5 or a PM2.5 precursor emissions, which result in an emission increase in the potential to emit for the project as determined by Section 411.5, which when aggregated with all other creditable increases and decreases in emissions from the source is equal to or exceeding any of the following thresholds:
 - a. 10 tons per year of direct PM2.5;
 - b. 40 tons per year of nitrogen oxide;
 - c. 40 tons per year of sulfur dioxide
 - d. 40 tons per year of volatile organic compounds if volatile organic compounds is determined to be a necessary part of the PM2.5 control strategy in the attainment demonstration and is approved by EPA in the State Implementation Plan; or
 - e. The significance level established in the attainment demonstration, if ammonia is determined to be a necessary part of the PM2.5 control strategy in the attainment demonstration and is approved by EPA in the State Implementation Plan.
 - 227.4 [RESERVED]
 - 227.5 [RESERVED]
 - 227.6 Unless previously limited by a permit condition, the following shall not be considered a major modification for the purpose of this rule:
 - a. A change in ownership.
 - b. Routine maintenance and repair.
 - c. A reconstructed stationary source or emissions unit, which shall be treated as a new stationary source or emissions unit, not as a major modification.
 - d. The addition of a continuous emission monitoring system.
 - e. Replacing of air pollution control equipment with new control equipment if the emissions of the new equipment are less than or equal to those from the original piece of equipment as determined by Section 411.2 and the replacement is not otherwise a major modification as defined in this rule.
- 228 **MAJOR STATIONARY SOURCE:** A stationary source is a major source for the regulated air pollutant if it emits or has the potential to emit a regulated air pollutant in quantities equal to or exceeding any of the following thresholds:
- 228.1 25 tons per year of volatile organic compounds;
 - 228.2 25 tons per year of nitrogen oxides;
 - 228.3 100 tons per year of PM10; or 100 tons per year of sulfur oxides as a PM10 precursor;

- 228.4 100 tons per year of directly emitted PM_{2.5}, or 100 tons per year of nitrogen oxides or sulfur oxides as PM_{2.5} precursors; or
- 228.5 [RESERVED]
- 228.6 100 tons per year of volatile organic compounds or ammonia as a PM_{2.5} precursor, if volatile organic compounds or ammonia is determined to be a necessary part of the PM_{2.5} control strategy in the attainment demonstration and is approved by EPA into the State Implementation Plan,

Emissions associated with emissions units exempt from permit requirements pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS, shall be included in the potential to emit of the stationary source unless the emissions unit emits less than 2 pounds per day of each pollutant. Notwithstanding the previous sentence, emissions units exempted by Rule 201, Sections 111 and 113 shall not be included in the potential to emit calculations. Fugitive emissions associated with the emissions unit or stationary source shall not be included in the potential to emit of the emissions unit or stationary source for the purpose of determining whether the source is major unless the source belongs to one of the following categories of stationary sources:

1. Coal cleaning plants (with thermal dryers);
2. Kraft pulp mills;
3. Portland cement plants;
4. Primary zinc smelters;
5. Iron and steel mills;
6. Primary aluminum ore reduction plants;
7. Primary copper smelters;
8. Municipal incinerators capable of charging more than 250 tons of refuse per day;
9. Hydrofluoric, sulfuric, or nitric acid plant;
10. Petroleum refineries;
11. Lime plants;
12. Phosphate rock processing plants;
13. Coke oven batteries;
14. Sulfur recovery plants;
15. Carbon black plants (furnace process);
16. Primary lead smelters;
17. Fuel conversion plants;
18. Sintering plants;
19. Secondary metal production plants;
20. Chemical process plants—The term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;
21. Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
22. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
23. Taconite ore processing plants;
24. Glass fiber processing plants;
25. Charcoal production plants;
26. Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; or
27. All other stationary source categories regulated by a standard promulgated under Section 111 or 112 (42 U.S.C. Section 7411 of 7412) of the Federal Clean Air Act, but only with respect to those air pollutants that have been regulated for that category.

- 229 **MODIFICATION:** Any physical change, change in method of operation (including change in fuel), or addition, which:
- 229.1 For an emissions unit would necessitate a change in a permit condition or result in the potential to emit being higher than the historic potential emissions as defined in Section 225.
- 229.2 For a stationary source:
- a. is a modification of any emissions unit, or
 - b. addition of any new emissions unit.
- 229.3 Unless previously limited by a permit condition, the following shall not be considered a modification for the purpose of this rule:
- a. A change in ownership.
 - b. Routine maintenance and repair.
 - c. A reconstructed stationary source or emissions unit, which shall be treated as a new stationary source or emissions unit, not as a modification.
 - d. The addition of a continuous emission monitoring system.
 - e. Replacing of air pollution control equipment with new control equipment if the emissions of the new equipment are less than or equal to those from the original piece of equipment as determined by Section 411.2 and the replacement is not a major modification as defined in this rule.
- 230 **NECESSARY PRECONSTRUCTION APPROVALS OR PERMITS:** Approvals or permits required to comply with all those federal air quality control laws and regulations and those air quality control laws and regulations which are part of the applicable State Implementation Plan.
- 231 **NEW EMISSIONS UNIT:** An emissions unit which has not commenced operation.
- 232 **NONATTAINMENT POLLUTANT:** Any pollutant and any precursors of such pollutants which have been designated "nonattainment" for the District by the U.S. Environmental Protection Agency as codified in 40 CFR 81.305.
- 233 **PEAKING POWER PLANT:** A fossil-fueled combustion turbine power generation unit or other power generation unit with an actual annual capacity factor of 25% or less, which is used during peak electricity demand periods, and may operate for short periods, with frequent start-ups and shutdowns. Emergency equipment that is operated in compliance with the requirements of Section 110 is not considered a peaking power plant.
- 234 **PLANTWIDE APPLICABILITY LIMIT (PAL):** Exclusively for the purpose of Section 115, an emission limitation expressed in tons per year, for a pollutant at a major stationary source, that is federally enforceable and established source-wide in accordance with 40 CFR Sections 51.165(f)(1) through (f)(15).
- 234.1 All terms used in 40 CFR 51.165(f) shall be as defined in 40 CFR 51.165(f)(2) or if not defined in 40 CFR 51.165(a)(1), as each subsection exists on July 1, 2010, except that:
- a. the term "reviewing authority" as used in those Sections shall mean the Sacramento Metropolitan Air Quality Management District.
- 235 **PM10:** Particulate matter with an aerodynamic diameter smaller than or equal to a nominal 10 microns. Gaseous emissions which condense to form particulate matter at ambient temperatures shall be included.
- 236 **PM2.5:** Particulate matter with an aerodynamic diameter smaller than or equal to a nominal 2.5 microns. Gaseous emissions which condense to form particulate matter at ambient temperatures shall be included.
- 237 **[RESERVED]**

- 238 **POTENTIAL TO EMIT:** The maximum physical and operational design capacity to emit a pollutant. Limitations on the physical or operational design capacity, including emissions control devices and limitations on hours of operation, may be considered only if such limitations are incorporated into the applicable Authority to Construct and Permit to Operate as a permit condition and are enforceable as a practical matter and federally enforceable. The potential to emit shall include all directly emitted emissions. Fugitive emissions are only included in potential to emit if the source belongs to one of the categories of stationary sources included in Section 228.
- 239 **PRECURSOR:** A pollutant that, when emitted into the atmosphere, may undergo either a chemical or physical change which then produces another pollutant for which an ambient air quality standard has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more ambient air quality standards. The following precursor-secondary air contaminant relationships shall be used for the purposes of this rule:
- | <u>Precursor</u> | <u>Secondary Air Contaminant</u> |
|---------------------------|---|
| Volatile Organic Compound | <ul style="list-style-type: none"> a. Photochemical oxidants (Ozone) b. Organic fraction of PM10 c. Organic fraction of PM2.5, if volatile organic compounds is determined to be a necessary part of the PM2.5 control strategy in the attainment demonstration approved by EPA in the State Implementation Plan |
| -----
Nitrogen Oxides | <ul style="list-style-type: none"> a. Nitrogen dioxide b. Nitrate fraction of PM10 c. Photochemical oxidants (Ozone) d. Nitrate fraction of PM2.5 |
| -----
Sulfur Oxides | <ul style="list-style-type: none"> a. Sulfur dioxide b. Sulfates c. Sulfate fraction of PM10 d. Sulfate fraction of PM2.5 |
| -----
Ammonia | <ul style="list-style-type: none"> a. Nitrate fraction of PM2.5, if ammonia is determined to be a necessary part of the PM2.5 control strategy in the attainment demonstration approved by EPA in the State Implementation Plan. |
| ----- | ----- |
- 240 **PRIORITY RESERVE BANK:** A depository for preserving emission reduction credits pursuant to Rule 205, COMMUNITY BANK AND PRIORITY RESERVE BANK for use as an emission offset in accordance with Sections 302, 303, and 411.
- 241 **PROJECT:** A project includes all of the emissions units associated with the scope of the preconstruction application for a new or modified stationary source and any emissions units indirectly affected.
- 242 **PROPOSED EMISSIONS:** Emissions based on the potential to emit for the emissions unit.
- 243 **QUARTER/QUARTERLY:** Calendar quarters beginning January 1, April 1, July 1, and October 1.

- 244 **RECONSTRUCTED SOURCE:** Any stationary source or emissions unit undergoing physical modification where the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost of a comparable entirely new stationary source or emissions unit. Fixed capital cost means that capital needed to provide and install all the depreciable components: this includes the cost of parts and labor. A reconstructed source shall be treated as a new stationary source or emissions unit.
- 245 **REGULATED AIR POLLUTANT:** Any air pollutant for which there is a national ambient air quality standard, or a precursor to such air pollutant.
- 246 **SACRAMENTO FEDERAL NONATTAINMENT AREA FOR OZONE:** The area defined in 40 CFR Section 81.305.
- 247 **SACRAMENTO FEDERAL NONATTAINMENT AREA FOR PM10:** The area defined in 40 CFR Section 81.305.
- 248 **SACRAMENTO FEDERAL NONATTAINMENT AREA FOR PM2.5:** The area defined in 40 CFR Section 81.305.
- 249 **STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any regulated air pollutant directly or as a fugitive emission.
- 249.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- belong to the same industrial grouping, and
 - are located on one property or on two or more contiguous properties, and
 - are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.
- 249.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- they belong to the same two-digit standard industrial classification code, or
 - they are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)
- 249.3 The emissions within District boundaries of cargo carriers associated with the stationary source shall be considered emissions from the stationary source to the extent that emission reductions from cargo carriers are proposed as emission offsets.

250 **[RESERVED]**

300 **STANDARDS**

- 301 **BEST AVAILABLE CONTROL TECHNOLOGY:** An applicant shall apply Best Available Control Technology to a new emissions unit or modification of an existing emissions unit, except cargo carriers, for each emissions change of a regulated air pollutant, if the change would result in an emission increase calculated pursuant to Section 411.1 of more than the levels specified in Section 301.1.

301.1 <u>Pollutant</u>	lb/day
Volatile organic compounds	0
Nitrogen oxides	0
Sulfur oxides	0
PM10	0
PM2.5	0

302 **EMISSION OFFSET REQUIREMENTS, GENERAL:**

302.1 An applicant shall provide emission offsets for a regulated air pollutant where the potential to emit of that pollutant calculated pursuant to Section 411.3, meets or exceeds the following levels:

a. For new major stationary sources:

<u>Pollutant</u>	
Volatile organic compounds	12,500 lbs/quarter
Nitrogen oxides	12,500 lbs/quarter
Sulfur oxides	22,812 lbs/quarter
PM10	7,300 lbs/quarter
PM2.5	100 tons/year

If Ammonia is determined to be a necessary part of the PM2.5 control strategy in the attainment demonstration approved by EPA in the State Implementation Plan:

Ammonia	100 ton/year
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b. For modifications:

<u>Pollutant</u>	
Volatile organic compounds	12,500 lbs/quarter
Nitrogen oxides	12,500 lbs/quarter
Sulfur oxides	20,000 lbs/quarter
PM10	7,300 lbs/quarter
PM2.5	10 ton/year

The level set in the attainment demonstration approved by EPA into the State Implementation Plan for ammonia if ammonia is determined to be a necessary part of the PM2.5 control strategy in the attainment demonstration.

302.2 For a peaking power plant, if the emissions increase calculated pursuant to Section 411.3 is below the levels in Section 302.1, an applicant shall provide emission offsets for the regulated air pollutant where the daily emission increase calculated pursuant to Section 411.3 exceeds the following levels:

<u>Pollutant</u>	lb/day
Volatile organic compounds	250
Nitrogen oxides	250
Sulfur oxides	250
PM10	80

302.3 Except for PM2.5 or as provided in Section 302.3a, b, c, or d; sufficient emission offsets shall be provided from the same calendar quarter as the proposed emissions. The quantity of offsets required shall be determined using the calculation procedures specified in Section 411.4.

a. Emission credits for volatile organic compounds and nitrogen oxides during the quarters starting April 1 and July 1 may be used to offset emission increases during any quarter except as provided below.

1. Emission credits from the quarter starting April 1 that will be used in the quarter starting July 1 shall not exceed more than 20% of a project's volatile organic compound or nitrogen oxides offset needs, as applicable, in the quarter beginning July 1.

2. Emission credits from the quarter starting July 1 that will be used in the quarter starting April 1 shall not exceed more than 20% of a project's volatile organic compound or nitrogen oxides needs, as applicable, in the quarter beginning April 1.

b. Emission credits for volatile organic compounds and nitrogen oxides during quarters starting January 1 and October 1 may be used to offset emission increases during either quarter starting January 1 and October 1.

c. Emission credits for PM10, and sulfur oxides during the quarters starting January 1 and October 1 may be used during any quarter except as provided below.

1. Emission credits from the quarter starting January 1 that will be used in the quarter starting October 1 shall not exceed more than 20% of a project's PM10, and sulfur oxides offset needs, as applicable, in the quarter beginning October 1.
 2. Emission credits from the quarter starting October 1 that will be used in the quarter starting January 1 shall not exceed more than 20% of a project's PM10, and sulfur oxides offset needs, as applicable, in the quarter beginning January 1.
 - d. Emission credits for PM10, and sulfur oxides during quarters starting April 1 and June 1 may be used to offset emission increases during either quarter starting April 1 and June 1.
- 302.4 Emission offsets shall be obtained pursuant to Rule 204, EMISSION REDUCTION CREDITS, Rule 205, COMMUNITY BANK AND PRIORITY RESERVE BANK, or Rule 206, MOBILE AND TRANSPORTATION SOURCE EMISSION REDUCTION CREDITS, or pursuant to an adopted emission reduction credit rule in another air district that meets the requirements of Section 302.6.
- 302.5 If an application for an Authority to Construct is received for an emissions unit that had previously obtained emission reduction credits for the shutdown of that emissions unit under Rule 204, EMISSION REDUCTION CREDITS, then sufficient emission offsets shall be provided consistent with Section 302. If the emissions unit does not trigger emission offsets in accordance with this section then the applicant shall provide sufficient emission offsets to offset the lesser of the amount of the emission reduction obtained pursuant to Rule 204, EMISSION REDUCTION CREDITS or the potential to emit from the emissions unit.
- 302.6 Emission offsets which are required and obtained pursuant to permitting and/or banking actions in a district other than that in which the proposed source is located may be used only if the Air Pollution Control Officer has reviewed the permit conditions and/or banking action issued by the other district in which the proposed emission offsets are obtained and made a determination that the impact of using such emission offsets meets the requirements of District Rules and Regulations, state, and federal requirements. An offset ratio not less than the levels specified in Section 303 shall be applied as necessary to discount the offsets and mitigate the associated impact.
- 302.7 [RESERVED]
- 302.8 [RESERVED]
- 302.9 For major stationary sources or major modifications, emission offsets for volatile organic compounds and nitrogen oxides must be obtained from within the Sacramento Federal Nonattainment Area for ozone.
- 302.10 For major stationary sources or major modifications that exceed the levels in Section 227.3, emissions offsets for PM2.5 and PM2.5 precursors must be obtained within the Sacramento Federal Nonattainment Area for PM2.5 and emission offsets for PM10 must be obtained within Sacramento County as long as Sacramento County is a federal PM10 nonattainment area.
- 303 **EMISSION OFFSET RATIOS:** The applicable offset ratio for use in Section 411.4 shall be determined based on the location of the new or modified stationary source required to provide offsets and the distance to the location of the emission offsets, as indicated in the following tables.

303.1 Except as provided in Section 303.2, an applicant shall provide emission offsets for emissions from a new or modified stationary source using the following ratios:

Location of Emission Offset	Emission Offset Ratio			
	Volatile organic compounds or Nitrogen oxides	PM2.5 or ammonia if determined to be PM2.5 precursor by Section 239	Other Nonattainment pollutants	Attainment pollutants
Same Source	1.3 to 1.0 if used at a new major stationary source or major modification at a major source OR 1.0 to 1.0 if used for non-major modifications	1.0 to 1.0	1.0 to 1.0	1.0 to 1.0
Within 15-mile radius	1.3 to 1.0 if used at a new major stationary source or major modification at a major source OR 1.2 to 1.0 if used for non-major modifications	1.2 to 1.0	1.2 to 1.0	1.1 to 1.0
Greater than 15-mile but within 50-mile radius	2.0 to 1.0	2.0 to 1.0	2.0 to 1.0	1.2 to 1.0
More than 50-mile radius	>2.0 to 1.0 (*)	>2.0 to 1.0 (*)	>2.0 to 1.0 (*)	>1.2 to 1.0 (*)
(*) based on case by case determination				

303.2 Applicants providing emission offsets obtained pursuant to Rule 205, COMMUNITY BANK AND PRIORITY RESERVE BANK and applicants providing emission offsets obtained pursuant to Rule 206, Mobile and Transportation Source Emission Reduction Credits, shall provide emission offsets for all pollutants at all distances pursuant to the following:

Emission offsets obtained from Rule 205, COMMUNITY BANK AND PRIORITY RESERVE BANK, or Rule 206, MOBILE AND TRANSPORTATION SOURCE EMISSION REDUCTION CREDITS	
Source Type/Pollutant	Emission offset ratio
For use by non-major modifications for all pollutants if the non-major modifications has an increase in emissions calculated pursuant to Section 411.3 of 250 lbs/day or less of VOC, NOx, and SOx, and 80 lbs/day or less of PM10.	1.0 to 1.0
If the non-major modification has an increase in emissions calculated pursuant to Section 411.3 that is greater than 250 lbs/day of VOC, NOx, and SOx, or greater than 80 lbs/day of PM10.	1.2 to 1.0
For use by a new major stationary source or major modification for volatile organic compounds or nitrogen oxides	1.3 to 1.0
For use by a new major stationary source or major modification for other nonattainment pollutants, except for VOC, or NOx, or PM2.5	1.2 to 1.0
For PM2.5 or ammonia if determined to be PM2.5 precursor by Section 239	1.0 to 1.0

- 304 **INTERPOLLUTANT EMISSION OFFSETS EXCEPT FOR PM2.5:** Interpollutant emission offsets are discouraged and may only be allowed between precursor contaminants. The Air Pollution Control Officer may approve interpollutant emission offsets for precursor pollutants on a case by case basis, except for PM2.5 which is subject to Section 305, provided that the applicant demonstrates through the use of an air quality model that the emission increases from the new or modified source will not cause or contribute to a violation of an ambient air quality standard. In such cases, the Air Pollution Control Officer shall impose, based on an air quality analysis, emission offset ratios in addition to the requirements of Section 303. Interpollutant emission offsets between PM10 and PM10 precursors may be allowed. PM10 emissions shall not be allowed to offset nitrogen oxides or volatile organic compound emissions in ozone nonattainment areas, nor be allowed to offset sulfur oxide emissions in sulfate nonattainment areas. In no case shall the compounds excluded from the definition of Volatile Organic Compounds be used as offsets for Volatile Organic Compounds. Interpollutant emission offsets used at a major stationary source must receive written approval by the U.S. Environmental Protection Agency.
- 305 **PM2.5 INTERPOLLUTANT EMISSION OFFSETS:** Interpollutant emission offsets between PM2.5 and PM2.5 precursors are not allowed unless modeling demonstrates that PM2.5 interpollutant offset ratios are appropriate in an approved PM2.5 attainment plan.
- 306 **AMBIENT AIR QUALITY STANDARDS:** In no case shall emissions from a new or modified stationary source, prevent or interfere with the attainment or maintenance of any applicable ambient air quality standard. The Air Pollution Control Officer may require the use of an air quality model to estimate the effects of a new or modified stationary source. In making this determination the Air Pollution Control Officer shall take into account the mitigation of emissions through emission offsets obtained pursuant to this rule.

- 307 **DENIAL, FAILURE TO MEET STANDARDS:** The Air Pollution Control Officer shall deny any Authority to Construct or Permit to Operate if the Air Pollution Control Officer finds that the subject of the application would not comply with the standards set forth in District, state, or federal rules, regulations or statutes.
- 308 **[RESERVED]**
- 309 **DENIAL, ADVERSE IMPACT TO VISIBILITY OF A CLASS I AREA:** The Air Pollution Control Officer shall deny any Authority to Construct or Permit to Operate for a new major stationary source or major modification if the Air Pollution Control Officer finds, after consideration of comments and an analysis from the Federal Land Manager, that the emissions from a proposed facility or modification would have an adverse impact on visibility, as defined in 40 CFR Section 52.21(b)(29), of a Class I area pursuant to 40 CFR Section 51.307(b)(2).
- 400 **ADMINISTRATIVE REQUIREMENTS:** The following administrative requirements in Sections 401-413 shall apply to any activities regulated by this rule, except for the review of power plants over 50 megawatts. Power plants over 50 megawatts shall be subject to the review requirements of Section 414.
- 401 **ALTERNATIVE SITING:** Except as provided in Section 115, for major sources or major modifications for which an analysis of alternative sites, sizes, and production processes is required under Section 173(a)(5) of the Clean Air Act, the Air Pollution Control Officer shall require the applicant to prepare an alternative siting analysis that is functionally equivalent to the requirements of Division 13 of the Public Resources Code (California Environmental Quality Act-CEQA). An Authority to Construct shall not be issued unless the Air Pollution Control Officer has concluded, based on the information contained in the alternative siting analysis, that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.
- 402 **COMPLETE APPLICATION:** The Air Pollution Control Officer shall determine whether the application is complete not later than 30 days after receipt of the application, or after such longer time as both the applicant and the Air Pollution Control Officer have agreed in writing. If the Air Pollution Control Officer determines that the application is not complete, the applicant shall be notified in writing of the decision specifying the information required. Upon receipt of any re-submittal of the application, a new 30-day period to determine completeness shall begin. The Air Pollution Control Officer may, during the processing of the application, request an applicant to clarify, amplify, correct, or otherwise supplement the information submitted in the application. Completeness of an application or re-submitted application shall be evaluated on the following:
- 402.1 Information requirements set forth in the District's List and Criteria as it exists on the date on which the application or re-submitted application was received;
 - 402.2 Payment of the appropriate fee pursuant to Rule 301 - PERMIT FEES, STATIONARY SOURCES; and
 - 402.3. For projects that may affect visibility of a Class I area pursuant to Section 413, the application shall not be deemed complete without a visibility analysis for any Class I areas the source may affect.
- 403 **AIR QUALITY MODELS:** All air quality models used for the purposes of this rule shall be consistent with the requirements provided in the most recent edition of U.S. Environmental Protection Agency "Guidelines on Air Quality Models, 40 CFR 51 Appendix W" unless the Air Pollution Control Officer finds that such model is inappropriate for use. After making such finding the Air Pollution Control Officer may designate an alternate model only after allowing for public comment, and only with concurrence of the U.S. Environmental Protection Agency. Credit shall not be given for stacks higher than that dictated by good engineering practice. All modeling costs associated with the siting of a stationary source shall be borne by the applicant.

- 404 **ENHANCED NEW SOURCE REVIEW:** Applications for which the applicant has requested review pursuant to this Section shall be reviewed in accordance with the procedural requirements specified in Sections 401 through 408 of District Rule 207, TITLE V FEDERAL OPERATING PERMIT PROGRAM.
- 405 **PRELIMINARY DECISION:** Following acceptance of an application as complete, the Air Pollution Control Officer shall perform the evaluations required to determine compliance with all applicable District, state and federal rules, regulations, or statutes and shall make a preliminary written decision as to whether an Authority to Construct should be approved, conditionally approved, or denied. The decision shall be supported by a succinct written analysis.
- 406 **[RESERVED]**
- 407 **AUTHORITY TO CONSTRUCT, FINAL ACTION:**
- 407.1 a. Except as provided in Sections 407.1b and 407.1c, the Air Pollution Control Officer shall take final action on the application, after considering all written comments, no later than 180 days after acceptance of an application as complete.
- b. The Air Pollution Control Officer shall not take final action for any project for which an Environmental Impact Report (EIR) or a Negative Declaration is being prepared until a final EIR for that project has been certified or a Negative Declaration for that project has been approved, and the Air Pollution Control Officer has considered the information in that final EIR or Negative Declaration. The Air Pollution Control Officer shall take final action on the application within whichever of the following periods of time is longer:
1. Within 180 days after the certification of the final EIR or approval of the Negative Declaration, or
 2. Within 180 days of the date on which the application was determined complete by the Air Pollution Control Officer.
- c. The Air Pollution Control Officer shall take final action on applications reviewed pursuant to the Enhanced New Source Review Process no later than 18 months after acceptance of an application as complete.
- 408 **REQUIREMENTS, AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE:**
- 408.1 General Conditions: As a condition for the issuance of a Permit to Operate, the Air Pollution Control Officer shall require that the emissions unit and stationary source, and any emissions units which provide emission offsets, be operated in the manner stated in making the analysis required to determine compliance with this rule, and as conditioned in the Authority to Construct.
- 408.2 Emissions Limitations: The following emissions limitations shall be included on the Authority to Construct and Permit to Operate.
- a. Emission limitations which reflect Best Available Control Technology, if applicable. Such condition shall be expressed in a manner consistent with testing procedures, such as ppmv NO_x, g/liter VOC, or lbs/MMBtu.
 - b. An enforceable daily emissions limitation, for emissions units subject to Sections 113.2, and 302.2, and a quarterly emissions limitation for all regulated air pollutants, and an enforceable annual emissions limitation for PM_{2.5} and for any regulated air pollutant for which the stationary source exceeds the major source or major modification thresholds listed in Section 227 or 228. Enforceable daily emission limits are also required for emissions units not required to install BACT pursuant to Section 411.1.

- c. If the Air Pollution Control Officer determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of a numerical emission standard infeasible, the Air Pollution Control Officer may instead prescribe a design, operational, or equipment standard. In such cases, the Air Pollution Control Officer shall make a best estimate as to the emission rate that will be achieved. Any permits issued without an enforceable numerical emission standard must contain enforceable conditions that assure that the design characteristics or equipment will be properly maintained, or that the operational conditions will be properly performed, so as to continuously achieve the assumed degree of control. The Air Pollution Control Officer shall discuss the determination in the Preliminary Decision prepared pursuant to Section 405.
 - d. The emissions limitation shall be no less stringent than the applicable emission standards given in 40 CFR Part 60, Standards of Performance for New Stationary Sources, and 40 CFR Part 61 and 63, National Emission Standards for Hazardous Air Pollutants.
- 408.3 Emission offsets: The following conditions shall be included on the Authority to Construct and Permit to Operate:
- a. Before the Air Pollution Control Officer shall approve or conditionally approve an application for an Authority to Construct, the applicant shall supply evidence of a sufficient number of emission reduction credits to meet any offset obligation in accordance with this rule.
 - b. The operation of any emissions unit which provides emission offsets shall be subject to enforceable permit conditions, containing specific emissions and operational limitations, to ensure that the emission reductions are provided in accordance with the provisions of this rule.
 - c. For major stationary sources and major modifications, all emission reductions claimed as offset credit shall be enforceable as a practical matter and federally enforceable.
 - d. A violation of the emission limitation provisions of any contract pursuant to Rule 204, EMISSION REDUCTION CREDITS, shall be a violation of this rule by the owner or operator of the permitted stationary source.
 - e. The operation of any emissions unit which uses emission offsets provided by another emissions unit shall be subject to enforceable permit conditions, containing specific emissions and operational limits, to ensure that the emission reductions are used in accordance with the provisions of District rules and shall continue for the reasonably expected life of the proposed emissions unit.
 - f. Any offsets required pursuant to Sections 302, 303 or any other state or federal law or regulation must be surrendered prior to commencing operation of the new or modified source, and the emission offsets shall be maintained throughout the operation of the new or modified source which is the beneficiary of the emission offsets.

- 409 **ISSUANCE, PERMIT TO OPERATE:** In addition to the requirements of Rule 207, TITLE V FEDERAL OPERATING PERMIT PROGRAM if applicable, the Air Pollution Control Officer shall issue a Permit to Operate an emissions unit, pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS, subject to the requirements of this rule if it is determined that any offsets required as a condition of an Authority to Construct or amendment to a Permit to Operate will commence not later than the initial operation of the new or modified source, and that the emission offsets shall be maintained throughout the operation of the new or modified source which is the beneficiary of the emission offsets. Further, the Air Pollution Control Officer shall determine that all conditions specified in the Authority to Construct have been complied with or will be complied with by the dates specified on the Authority to Construct. Such applicable conditions shall be contained in the Permit to Operate. Where a new or modified stationary source is, in whole or in part, a replacement for an existing stationary source on the same property,

the Air Pollution Control Officer may allow a maximum of 90 days as a startup period for simultaneous operation of the existing stationary source and the new replacement source.

- 410 **REGULATIONS IN FORCE GOVERN:** An Authority to Construct shall be granted or denied based on Best Available Control Technology and emission offset requirements of Sections 301, 302, and 303 in force on the date the application is deemed complete, as defined in Section 402, except when a new federal requirement not yet incorporated into this rule applies to the new or modified source. In addition, the Air Pollution Control Officer shall deny an Authority to Construct for any new stationary source or modification, or any portion thereof, unless:
- 410.1 The new source or modification, or applicable portion thereof, complies with the provisions of this rule and all other applicable district rules and regulations; and
 - 410.2 The owner or operator of the proposed new or modified stationary source has demonstrated that all major stationary sources owned or operated by such person (or by an entity controlling, controlled by, or under common control with such person) in California which are subject to emission limitations are in compliance, or on a schedule for compliance, with all applicable emission limitations and standards in the Federal Act.
- 411 **EMISSION AND OFFSET CALCULATIONS:** The following provisions shall be used:
- 411.1 **BACT – Emissions Increase:** The emissions increase for the purposes of determining BACT applicability pursuant to Section 301 shall be calculated as the daily Potential to emit minus the daily Historic Potential Emissions. The increase must be calculated as daily emissions, and calculated separately for each emissions unit associated with the project.
 - 411.2 **Replacing of Air Pollution Control Equipment – Emissions Increase:** The emissions increase for the purposes of replacing of air pollution control equipment with new control equipment pursuant to Section 229.3e shall be calculated as the sum of emissions increases from Section 411.1 for all emissions units in the project.
 - 411.3 **Offsets Trigger:** For the purposes of determining whether Offsets are required pursuant to Sections 302.1 and 302.2, emissions shall be calculated as:
 - a. For SO_x, PM₁₀, and PM_{2.5}: the sum of the potential to emit for all emissions units at the stationary source installed after January 1, 1977 plus the sum of the potential to emit minus Historic Potential Emissions for all emissions units installed prior to January 1, 1977 and modified after January 1, 1977 as determined by Section 411.4 of this rule or procedures specified in this rule at time of modification.
The increase must be calculated using daily emissions for peaking power plants and for purposes of Section 303.2 and quarterly emissions for all other purposes for SO_x and PM₁₀. The increase must be calculated in yearly emissions for PM_{2.5}.
 - b. For VOC and NO_x: the sum of the potential to emit for all emissions units at the stationary source. The increase must be calculated using daily emissions for peaking power plants and quarterly emission, for all other purposes.
 - c. For VOC and NO_x for purposes of Section 303.2: the sum of the potential to emit for all emissions units at the stationary source installed after January 1, 1977 plus the sum of the potential to emit minus Historic Potential Emissions for all emissions units installed prior to January 1, 1977 and modified after January 1, 1977.

- 411.4 Quantity of Offsets Required: If offsets are required pursuant to Section 302, the quantity of offsets to be provided shall be determined as follows:
- a. Multiply the sum of all increases of the potential to emit minus the Historic Potential Emissions for the emissions units associated with a project by the appropriate offset ratio based on pollutant and location as specified in Section 303.
 - b. The calculations shall be performed separately for each pollutant for each calendar quarter or, where the offset threshold is specified in tons/yr on an annual basis.
- 411.5 Emission Increase for Major Modification: The emissions increase from the project for purposes of Section 227 is the sum of the Potential to Emit for the project minus the Historic Actual Emissions, as defined in Section 224.1, for the project. However, the potential to emit, instead of historic actual emissions, can be used for emissions units if either of the following conditions applies:
- a. Actual emissions are at least 80% of the potential to emit limit, or
 - b. The emissions unit was fully offset for any emissions increase during the 5 year period prior to the date that the application is deemed complete.
- 412 **PLANTWIDE APPLICABILITY LIMITS:** Exclusively for the purpose of Section 115, the operator of a major stationary source may apply to the Air Pollution Control Officer pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS to establish a PAL.
- 412.1 All PALs shall be established according to the provisions of 40 CFR 51.165(f); and
- 412.2 All PALs shall comply with the requirements under 40 CFR 51.165(f) to either maintain, renew or retire the PAL.
- 413 **SOURCES IMPACTING CLASS I AREAS:** The applicant of a proposed new major source or major modification that may affect visibility of a Class I area shall provide the Air Pollution Control Officer with an analysis of impairment to visibility that would occur as a result of the source or modification and general commercial, residential, industrial, and other growth associated with the project, as required by 40 CFR Section 51.307(b)(2) and 40 CFR Section 51.166(o).
- 414 **POWER PLANTS:** This section shall apply to all power plants over 50 megawatts proposed to be constructed in the District and for which a Notice of Intention (NOI) or Application for Certification (AFC) has been accepted by the California Energy Commission.
- 414.1 Within 14 days of receipt of a Notice of Intention, the Air Pollution Control Officer shall notify the Air Resources Board and the California Energy Commission of the District's intent to participate in the Notice of Intention proceeding. If the District chooses to participate in the Notice of Intention proceeding, the Air Pollution Control Officer shall prepare and submit a report to the California Air Resources Board and the California Energy Commission prior to the conclusion of the non-adjudicatory hearing specified in Section 25509.5 of the California Public Resources Code. That report shall include, at a minimum:
- a. a preliminary specific definition of Best Available Control Technology for the proposed facility;
 - b. a preliminary discussion of whether there is substantial likelihood that the requirements of this rule and all other District regulations can be satisfied by the proposed facility;
 - c. a preliminary list of conditions which the proposed facility must meet in order to comply with this rule or any other applicable district regulation.
- The preliminary determinations contained in the report shall be as specific as possible within the constraints of the information contained in the Notice of Intention.

- 414.2 Upon receipt of an Application for Certification for a power plant, the Air Pollution Control Officer shall conduct a determination of compliance review. This determination shall consist of a review identical to that which would be performed if an application for a permit to construct had been received for the power plant. If the information contained in the Application for Certification does not meet the requirements of this rule, the Air Pollution Control Officer shall, within 20 calendar days of receipt of the Application for Certification, so inform the California Energy Commission, and the Application for Certification shall be considered incomplete and returned to the applicant for resubmittal.
- 414.3 The Air Pollution Control Officer shall consider the Application for Certification to be equivalent to an application for a permit to construct during the determination of compliance review, and shall apply all provisions of all District rules and regulations which apply to applications for a permit to construct.
- 414.4 The Air Pollution Control Officer may request from the applicant any information necessary for the completion of the determination of compliance review. If the Air Pollution Control Officer is unable to obtain the information, the Air Pollution Control Officer may petition the presiding Commissioner of the California Energy Commission for an order directing the applicant to supply such information.
- 414.5 Within 180 days of accepting an Application for Certification as complete, the Air Pollution Control Officer shall make a preliminary decision on:
- a. whether the proposed power plant meets the requirements of this rule and all other applicable district regulations; and
 - b. in the event of compliance, what permit conditions will be required including the specific Best Available Control Technology requirements and a description of required mitigation measures.
- The preliminary written decision shall be treated as a preliminary decision under Section 405 of this rule, and shall be finalized by the Air Pollution Control Officer only after being subject to public notice and comment requirements. The Air Pollution Control Officer shall not issue a determination of compliance unless all District rule requirements are met.
- 414.6 Within 240 days of the filing date, the Air Pollution Control Officer shall issue and submit to the California Energy Commission a determination of compliance or, if such a determination cannot be issued, shall so inform the California Energy Commission. A determination of compliance shall confer the same rights and privileges as an Authority to Construct only when and if the California Energy Commission approves the Application for Certification, and the California Energy Commission certificate includes all conditions of the determination of compliance.
- 414.7 Any applicant receiving a certificate from the California Energy Commission pursuant to this section and in compliance with all conditions of the certificate shall be issued a Permit to Operate by the Air Pollution Control Officer.

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RULE 217 – PUBLIC NOTICE REQUIREMENTS FOR PERMITS
Adopted 8-23-12

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100 **GENERAL**

101 **PURPOSE:** The purpose of this rule is to provide an administrative mechanism for public notification and review of the issuance of authorities to construct and permits to operate at new and modified stationary air pollution sources.

102 **APPLICABILITY:** This rule shall apply to all new stationary sources and emissions units and all modifications to existing stationary sources and emissions units which are subject to Rule 201, GENERAL PERMIT REQUIREMENTS, except that emissions units exempted by Rule 201 must be included in the potential to emit of the stationary source unless the emissions unit emits less than 2 pounds per day of each pollutant. This rule shall not apply to prescribed burning of forest, or range land, road construction or any other non-stationary source common to timber harvesting. This Section 102 shall not be used to exempt any stationary source or modification, which would be subject to review under U.S. Environmental Protection Agency regulations, from permit requirements.

103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect to the extent allowed by law.

110 **EXEMPTION: NOTIFICATION REQUIREMENTS:** The requirements of Section 401, relating to notification, publication, and public inspection of Preliminary Decisions; and notification, publication, and public inspection of Final Actions shall not apply if the application is for any new or modified emissions unit where the combined potential to emit from the project would have an increase in potential to emit, as defined in Section 403, of less than the amounts listed below. This exemption does not apply where emission offsets are required pursuant to the applicable New Source Review requirements.

Pollutant

Volatile organic compounds	5,000 pounds per quarter
Nitrogen oxides	5,000 pounds per quarter
Sulfur oxides	9,200 pounds per quarter
PM10	7,300 pounds per quarter
PM2.5	10 tons per year
Carbon monoxide	49,500 pounds per quarter

200 **DEFINITIONS:** Unless otherwise defined below, the terms in this rule are defined in Rule 101, GENERAL PROVISIONS AND DEFINITIONS, Rule 201, GENERAL PERMIT REQUIREMENTS, and Rule 214, FEDERAL NEW SOURCE REVIEW.

201 **FINAL ACTION:** The final action to grant or deny a permit pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS.

202 **POTENTIAL TO EMIT:** The maximum physical and operational design capacity to emit a pollutant. Limitations on the physical or operational design capacity, including emissions control devices and limitations on hours of operation, may be considered only if such limitations are incorporated into the applicable Authority to Construct and Permit to Operate as a permit condition that is enforceable as a practical matter and, for all new and modified major stationary sources, federally enforceable. The potential to emit shall include both directly emitted and fugitive emissions.

203 **PRELIMINARY DECISION:** The proposed action of the Air Pollution Control Officer to grant or deny a permit, pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS. This includes the preliminary decision to determine whether a power plant over 50 megawatts will be in compliance with all applicable New Source Review requirements.

300 **STANDARDS (NOT INCLUDED)**400 **ADMINISTRATIVE REQUIREMENTS**

- 401 **PUBLIC NOTIFICATION, INSPECTION, AND REVIEW:** Except as provided in Section 110, the following administrative requirements shall apply to all preliminary decisions and final actions:
- 401.1 **PRELIMINARY DECISION NOTIFICATION:** The Air Pollution Control Officer shall transmit to the California Air Resources Board and the U.S. Environmental Protection Agency the Air Pollution Control Officer's preliminary written decision and analysis for sources subject to Best Available Control Technology or emission offsets, upon issuance of the preliminary decision, for a 30-day review period.
- 401.2 **PUBLICATION AND PUBLIC COMMENT:** Within ten calendar days following a preliminary decision, the Air Pollution Control Officer shall publish in at least one newspaper of general circulation in the District a notice stating the preliminary decision of the Air Pollution Control Officer, noting how pertinent information can be obtained, and inviting written public comment for a 30-day period following the date of publication. The notice shall include the time and place of any hearing that may be held, including a statement of procedure to request a hearing (unless a hearing has already been scheduled). The Air Pollution Control Officer shall give notice of any public hearing at least 30 days in advance of the hearing.
- 401.3 **PUBLIC INSPECTION:** The Air Pollution Control Officer shall make available for public inspection at the District's office the information submitted by the applicant and the Air Pollution Control Officer's written analysis no later than the date the notice of the preliminary decision is published, pursuant to Section 401.2. All such information shall be transmitted no later than the date of publication to the California Air Resources Board and the U.S. Environmental Protection Agency regional office, and to any party which requests such information. Information submitted which contains trade secrets shall be handled in accordance with Section 6254.7 of the California Government Code and relevant sections of the California Administrative Code.
- 401.4 **AUTHORITY TO CONSTRUCT, FINAL ACTION NOTIFICATION:** The Air Pollution Control Officer shall provide written notice of the final action to the applicant, the U.S. Environmental Protection Agency, the California Air Resources Board, and to any party that requests such information. The Air Pollution Control Officer shall publish the notice, only after considering all written comments, on the District's website and shall make the notice and all supporting documents available for public inspection at the District's office.
- 402 **NOTIFICATION FOR CLASS I AREA VISIBILITY AND FEDERAL LAND MANAGER CONSULTATION:** In addition to the public notification procedures of Section 401, the following additional administrative requirements shall apply to all preliminary decisions and final actions that require a visibility analysis to be prepared pursuant to Rule 214, FEDERAL NEW SOURCE REVIEW.
- 402.1 **PUBLIC HEARING:** The Air Pollution Control Officer shall provide an opportunity for a public hearing allowing interested persons to appear and submit comments on the air quality impact of the source, alternatives to it, the control technology required, and other appropriate considerations as allowed by 40 CFR 51.166(q)(2)(v). The Air Pollution Control Officer shall give notice at least 30 days in advance of the hearing.

402.2 **PUBLIC INSPECTION AND CONSIDERATION OF COMMENTS:** The Air Pollution Control Officer shall consider all comments received in making a final decision on the approvability of the application. The Air Pollution Control Officer shall make available all comments received, any analysis provided from the Federal Land Manager, and a copy or summary of other materials considered for public inspection at the District's office, pursuant to 40 CFR 51.166(q)(2)(ii) and 40 CFR 51.166(q)(2)(vi).

402.3 **PUBLICATION:** The Air Pollution Control Officer shall send a written notification to all relevant officials and agencies having cognizance over the location where the proposed construction would occur as required by 40 CFR 51.166(q)(2)(iv). The written notification must include a copy of all information relevant to the permit application within 30 days of receipt and at least 60 days prior to a public hearing on the permit application.

403 **EMISSION CALCULATIONS:** The following provision shall be used:

403.1 Notification – Increase in Potential to Emit: The increase in potential to emit, for purposes of determining whether Section 110 – Exemption: Notification Requirements applies, shall be calculated by subtracting the potential to emit for the project prior to modification from the potential to emit for the project after the proposed modification.

500 **MONITORING AND RECORDS (NOT INCLUDED)**

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RULE 307 CLEAN AIR ACT FEES

Adopted 09-26-02

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100 GENERAL

- 101 **PURPOSE:** To establish fees pursuant to the Federal Clean Air Act Sections 182(d) and 185(a) through 185(d). Clean Air Act fees will be assessed if the Sacramento Federal Nonattainment Area fails to demonstrate attainment of the federal one-hour air quality standard for ozone by the attainment year.
- 102 **APPLICABILITY:** Any major stationary source of volatile organic compounds or nitrogen oxides shall pay a penalty fee determined by Section 402 of this rule beginning with the year after the attainment year and each year thereafter until attainment has been achieved.
- 103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid; it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect to the extent allowed by law.
- 110 **EXEMPTIONS:** No source shall be required to remit Clean Air Act Fees during any year that is considered an extension year.

200 DEFINITIONS

- 201 **ATTAINMENT YEAR:** The year that the Sacramento Federal Nonattainment Area is mandated to reach attainment of the federal one-hour air quality standard for ozone.
- 202 **BASELINE EMISSIONS:** Baseline emissions are calculated for each pollutant—volatile organic compounds or nitrogen oxides—for which the source is classified as a major stationary source.
- 202.1.1 For major stationary sources that began operation prior to the attainment year, the baseline emissions shall be the lower of the actual emissions during the attainment year or the amount of emissions allowed under permit.
- 202.1.2 For a major stationary source that begins operation during the attainment year, the baseline emissions shall be the lower of:
- a) the amount of emissions allowed under permit, or
 - b) the actual emissions from the operational period extrapolated over the attainment year.
- 202.2 For a major stationary source that begins operation after the attainment year, the baseline emissions shall be the amount allowed under the applicable implementation plan.
- 203 **EXTENSION YEAR:** The Environmental Protection Agency may grant, pursuant to Section 181(a)(5) of the Clean Air Act and upon the District's request, up to two one-year extensions to the attainment date provided the District has a) complied with all requirements and commitments pertaining to the area in the applicable implementation plan, and b) no more than one exceedance of the national ambient air quality standard level for ozone has occurred in the area in the year preceding the extension year.
- 204 **FEE ASSESSMENT YEAR:** The year for which Clean Air Act Fees are being calculated and assessed.
- 205 **MAJOR STATIONARY SOURCE:** For the purposes of this rule, "major stationary source" has the same meaning as in Section 181(b)(4)(B) of the Clean Air Act, if applicable, or as in Rule 202—NEW SOURCE REVIEW. As required by Section 182(f) of the Clean Air Act, major stationary sources of nitrogen oxides are subject to this rule in addition to major stationary sources of volatile organic compounds.

300 STANDARDS (NOT INCLUDED)

400 ADMINISTRATIVE REQUIREMENTS

- 401 **COLLECTION OF FEES:** Except as provided in Section 110, beginning in 2007 or the second year after the attainment year, whichever is later, the Air Pollution Control Officer shall assess the Clean Air Act fees for emissions in the previous calendar year. Clean Air Act fees shall be billed and remitted in conjunction with the permit renewal fee established by Rule 301—PERMIT FEES-STATIONARY SOURCE. Notification will be made by mail of the fee due and payable and the date the fee is due. If the fee is not paid within 60 days of the notice, the permit will be suspended and notification will be made by mail. A suspended permit may be reinstated by payment of the applicable fee.
- 402 **FEE DETERMINATION:** The fee shall be \$5,000, adjusted pursuant to Section 403, per ton of volatile organic compound and nitrogen oxide emissions during the calendar year that exceed 80% of the baseline emissions.

$$Fee = 5000 * [E_A - (0.8 * E_B)] * CPI$$

Where: *Fee* = Clean Air Act Fee
E_A = actual emissions for the applicable fee assessment year
E_B = baseline emissions
CPI = percent change in the Consumer Price Index as determined by Section 403

- 403 **FEE ADJUSTMENT:** The fee shall be adjusted annually by the change in the Consumer Price Index pursuant to Federal Clean Air Act Sections 185(b)(3) and 502(b)(3)(B)(v).

500 MONITORING AND RECORDS (NOT INCLUDED)

**RULE 401
RINGELMANN CHART
Adopted 8-3-77
(Amended 4-19-83)**

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301 LIMITATIONS

400 ADMINISTRATIVE REQUIREMENTS (NOT INCLUDED)

500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

101 **PURPOSE:** To limit the discharge of air contaminants into the atmosphere through visible emissions and opacity.

102 **EXEMPTIONS:** The provisions of this rule shall not apply to:

102.1 Smoke from fires set or permitted by a public officer, if such fire is set by or permission given in the performance of the official duty of such officer and such fire, in the opinion of such officer, is necessary:

a. For the purpose of the prevention of a fire or health hazard which cannot be abated by any other means,
or

b. For the instruction of public employees in the methods of fighting fires.

102.2 Smoke from fires set pursuant to permit on property used for industrial purposes for the purpose of instruction of employees in methods of fighting fires;

102.3 Agricultural operations in the growing of crops or raising of fowl or animals:

102.4 The use of an orchard or citrus grove heater which does not produce unconsumed solid carbonaceous matter at a rate in excess of (1) gram per minute;

102.5 The use of other equipment in agricultural operations necessary for the growing of crops or raising of fowl or animals;

102.6 Agricultural burning for which a permit has been granted pursuant to Regulation 5;

102.7 Use of any aircraft to distribute seed, fertilizer, insecticides, or other agricultural aides over lands devoted to the growing of crops or raising of fowl or animals;

102.8 Open outdoor fires used only for cooking of food for human beings or for recreational purposes;

102.9 Devices intended to create smoke for the purpose of training persons in the art of visual opacity determinations.

102.10 Diesel pile driving hammers. (This exemption shall remain in effect until December 31, 1986 and as of that date shall be repealed.)

300 STANDARDS

301 **LIMITATIONS:** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is:

301.1 As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or

301.2 Of such opacity as to obscure a human observer's view, or a certified calibrated in-stack opacity monitoring system to a degree equal to or greater than does smoke described in Subsection 301.1 of this rule.

4-19-84

RULE 403 FUGITIVE DUST

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- 500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

101 PURPOSE: To reasonably regulate operations which periodically may cause fugitive dust emissions into the atmosphere.

102 EXEMPTIONS: The provisions of this rule shall not apply to emissions emanating from agricultural operations, currently unworked land designated as reclaimed for agriculture, or unpaved roads open to public travel (this exclusion shall not apply to industrial or commercial facilities).

200 DEFINITIONS

201 FUGITIVE DUST: Solid airborne matter emitted from any non-combustion sources.

300 STANDARDS

301 LIMITATIONS: A person shall take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Reasonable precautions shall include, but are not limited to:

301.1 Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the construction of roadways or the clearing of land.

301.2 Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts;

301.3 Other means approved by the Air Pollution Control Officer.

**RULE 404
PARTICULATE MATTER**

**Adopted 3-11-70
(Amended 11-20-84)**

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100 GENERAL

101 PURPOSE

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302 FOOD PROCESSING FACILITY LIMITATIONS

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500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

101 PURPOSE: To limit the quantity of particulate matter in the atmosphere through establishment of an emission concentration limit.

200 DEFINITIONS

201 FOOD PROCESSING FACILITY: A facility which is engaged in the preparation of canned and preserved fruits and vegetables and is classified according to the Standard Industrial Classification Manual, 1972, as Group 203.

202 PARTICULATE MATTER: Any material which is emitted as liquid or solid particles, or gaseous material which becomes liquid or solid particles when collected at standard conditions.

300 STANDARDS

301 LIMITATIONS: Except as otherwise provided in Rule 406 of this regulation, a person shall not discharge into the

atmosphere from any source particulate matter in excess of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot).

302 FOOD PROCESSING FACILITY LIMITATION: A person shall not discharge into the atmosphere, from a food processing facility, particulate matter in excess of 9.0 kg/hr (20 lb/hr) and 216 kg/day (480 lb/day). Compliance with the requirements of this section shall exempt such facility from the requirements of Section 301.

302.1 This section shall be operative when approved by the US Environmental Protection Agency as a revision to the State Implementation Plan as it pertains to the district.

302.2 This section shall remain in effect only until January 1, 1988.

**RULE 405
DUST AND CONDENSED FUMES**

**Adopted 8-1-62
(Amended 6-1-76, 8-3-77)**

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300 STANDARDS

301 LIMITATION

400 ADMINISTRATIVE REQUIREMENTS (NOT INCLUDED)

500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

101 PURPOSE: To limit the discharge of dust and condensed fumes into the atmosphere by establishing emission rates based on process weight.

200 DEFINITIONS

201 DUSTS: Minute solid particles released into the atmosphere by natural forces or by mechanical processes such as crushing, grinding, milling, drilling, demolishing, shoveling, conveying, covering, bagging, sweeping, etc.

202 CONDENSED FUMES: Minute solid particles generated by the condensation of vapors from solid matter after volatilization from the molten state, or may be generated by sublimation, distillation, calcination, or chemical reaction, when these processes create airborne particles.

203 PROCESS WEIGHT PER HOUR: The total weight of all materials introduced into any specific process which

process may cause any discharge into the atmosphere. 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 one complete operation from the beginning of any given process to the completion thereof, excluding any time during which equipment handling such process is idle.

300 STANDARDS

301 LIMITATIONS: A person shall not discharge into the atmosphere in any one hour from any source whatsoever dust or condensed fumes in total quantities in excess of the amount shown in the following table:

To use the following table, take the process weight per hour as such is defined below. Then find this figure on the table, opposite which is the maximum number of kilograms or pounds of contaminants which may be discharged into the atmosphere in any one hour. As an example, if "A" has a process which emits contaminant into the atmosphere and which process takes 3 hours to complete, he will divide the weight of all materials in the specific process, in this example, 7500, by 3, giving a process weight per hour of 2500 kg. The table shows that "A" may not discharge more than 3.13 kg in any hour during the process. Where the process weight per hour falls between figures in the left hand column, the exact weight or permitted discharge may be interpolated.

TABLE FOR PROCESS WEIGHT AND ALLOWABLE DISCHARGE

Process weight per hour	Maximum discharge rate allowed for the solid particulate matter (aggregate discharged from all points of discharge)	Process weight per hour	Maximum discharge rate allowed for the solid particulate matter (aggregate discharged from all points of discharge)
kg/hr/lb/hr	kg/hr/lb/hr	kg/hr/lb/hr	kg/hr/lb/hr
114250	.451.00	36368000	3.95 8.70
136300	.511.12	38648500	4.119.04
159350	.561.23	40919000	4.259.36
182400	.611.34	43189500	4.40 9.67
205450	.651.44	454510000	4.5510.0
227500	.701.54	545512000	4.7310.4
273600	.791.73	636414000	4.9110.8
318700	.861.90	727316000	5.0911.2
364800	.942.07	818218000	5.2311.5
409900	1.012.22	909120000	5.3611.8
4551000	1.082.38	1363630000	5.9113.0
5451200	1.212.66	1818240000	6.3213.9
6361400	1.332.93	2272750000	6.6814.7
7271600	1.453.19	2727360000	6.9515.3
8181800	1.563.43	3181870000	7.2315.9
9092000	1.663.66	3636480000	7.4516.4
11362500	1.914.21	4090990000	7.6816.9
13643000	2.154.72	45455100000	7.8617.3
15913500	2.365.19	90909200000	9.2720.4
18184000	2.565.64	136634300000	10.2322.5
20454500	2.766.07	181818400000	10.9524.1

22735000	2.956.49	227273500000	11.5525.4
25005500	3.136.89	272727600000	12.0926.6
27276000	3.307.27	318182700000	12.5527.6
29556500	3.477.64	363636800000	12.9128.4
31827000	3.648.00	409091900000	13.3229.3
34097500	3.808.36	4545451000000	13.6430.0
		or moreor more	

**SACAQMD RULE 406 SPECIFIC CONTAMINANTS
LAST REVISED 12/06/78**

**RULE 406
SPECIFIC CONTAMINANTS
Adopted 3-11-70
(Amended 6-1-76, 8-3-77, 12-6-78)**

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500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

101 PURPOSE: To limit the emission of sulfur compounds and combustion contaminants through establishment of emission concentrations.

200 DEFINITIONS

201 COMBUSTION CONTAMINANTS: Particulate matter discharged into the atmosphere from the burning of any kind of material containing carbon in a free or combined state.

300 STANDARDS

301 SULFUR COMPOUNDS: A person shall not discharge into the atmosphere from any single source of emission whatsoever sulfur compounds in any state or combination thereof exceeding in concentration at the point of discharge: sulfur compounds, calculated as sulfur dioxide (SO₂): 0.2% by volume, except as otherwise provided in Rule 420.

302 COMBUSTION CONTAMINANTS: A person shall not discharge into the atmosphere from any single source of emission whatsoever, combustion contaminants in any state or combination thereof exceeding in concentration at the

point of discharge: 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) of gas calculated to 12% of carbon dioxide (CO₂) at standard conditions except that 0.69 grams per dry standard cubic meter (0.3 grains per dry standard cubic foot) of gas calculated to 12% of carbon dioxide (CO₂) at standard conditions shall be applied to incinerators rated less than or equal to 100 pounds per hour capacity and installed before July 1, 1978. In measuring the combustion contaminants from other than pathological incinerators used to dispose of combustible refuse by burning, the carbon dioxide (CO₂) produced by combustion of any liquid or gaseous fuels shall be excluded from the calculation to 12% carbon dioxide (CO₂).

4-19-84

RULE 407 OPEN BURNING

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- 500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

- 101 **PURPOSE:** To prohibit open burning within the District with certain exemptions.
- 110 **EXEMPTIONS:** This rule shall not apply to situations where such fires are set and permission for such fires is given in performance of the official duty of the Health Officer, the Agricultural Commissioner, or any fire protection agency officer where, in the opinion of the official, such fire is necessary:
- 110.1 For the purpose of the prevention of a fire hazard which cannot be abated by any other means; or
 - 110.2 For the instruction of public employees in the methods of fighting fires; or
 - 110.3 To control or abate a public health hazard; or
 - 110.4 To dispose of or control plant or animal pests and diseases; or
 - 110.5 When such fire is set pursuant to permit on property used for industrial purposes for the purpose of instruction of employees in methods of fighting fires; or
 - 110.6 When such fire is set and used wholly for recreational purposes; or
 - 110.7 When such fire is permitted under provisions of Regulation 5.
- 111 **EXEMPTION, LOCATION:** Section 301 shall not apply to refuse that is generated and burned on the premises of a single or two-family dwelling in the unincorporated area of the County of Sacramento, State of California, situated south of the center line of Township 7 North, excluding the areas described below:
- 111.1 That portion of the north 3/4 of the west 1/2 of Section 32 of Township 6N Range 4E, which lies east of the Sacramento River (encompassing the unincorporated community of Courtland).
 - 111.2 The Amended Plat of the unincorporated community of Hood, as recorded in Map Book 15, Page 45 of the County of Sacramento Office of the Recorder.
 - 111.3 The south 1/2 of Section 26 and the north 3/4 of Section 35, Township 5N, Range 4E (encompassing the unincorporated communities of Locke and Walnut Grove).
 - 111.4 The area bounded by a line east along Bond Road from Highway 99 to Waterman Road; thence south along Waterman Road to Grantline Road; thence southwesterly to the southern Pacific Railroad; thence southeasterly along said railroad to Highway 99, thence northwesterly along Highway 99 to the point of origin (encompassing the unincorporated community of Elk Grove).
 - 111.5 The west 1/2 of Section 33 and such portion of Section 32 which is east of Franklin Boulevard, which Sections are in Township 7N, Range 5E (encompassing the unincorporated community of Valley-Hi).
 - 111.6 Within the city limits of the City of Galt.
 - 111.7 Within the city limits of the City of Isleton.

200 DEFINITIONS

201 COMBUSTIBLE REFUSE: Any solid or liquid combustible waste material containing carbon in a free or combined state.

300 STANDARDS

301 OPEN BURNING PROHIBITED: A person shall not burn, allow to be burned, or allow to continue to burn any combustible refuse in an open fire, except as provided in Section 302 of this rule.

302 PROHIBITION: The burning of putrescible waste, bedding, asphaltic products or rubber products shall not be allowed at any time under provisions of this rule.

400 ADMINISTRATIVE REQUIREMENTS

401 CONSULTATION AND/OR PERMITS: Any person who conducts any open burning as allowed by this rule shall consult with the fire protection agency having jurisdiction where such burning will occur prior to such burning to determine the nature of any open burning restriction or permit requirements.

**RULE 408
INCINERATOR BURNING
Adopted 3-11-70
(Amended 2-5-75, 6-1-76)**

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500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

101 **PURPOSE:** To limit the type of incinerator used for refuse disposal.

200 DEFINITIONS

201 **COMBUSTIBLE REFUSE:** Any solid or liquid combustible waste material containing carbon in a free or combined state.

202 **MULTIPLE-CHAMBER INCINERATOR:** Any article, machine, equipment, contrivance, structure or part of 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. The refractories shall have a Pyrometric Cone Equivalent of at least 17, tested according to the method described in the American Society for Testing Materials, Method C-24.

300 STANDARDS

301 INCINERATORS: A person shall not burn any combustible refuse in any incinerator or other enclosure except:

301.1 Such refuse that is generated and burned on the premises of a single or two-family dwelling in the unincorporated area of the County of Sacramento, State of California, situated south of the center line of Township 7 North, or in any incorporated city whose boundaries are situated wholly south of such center line. The burning of putrescible waste, bedding, rubber products are excluded from this exception.

301.2 In 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.

4-19-84

RULE 409 ORCHARD HEATERS

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- 500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

101 PURPOSE: To limit the emission of particulate matter into the atmosphere from orchard heaters by only allowing the sale or use of approved equipment.

300 STANDARDS

301 SELLING OF ORCHARD HEATERS: A person shall not sell for use within the State of California any combustion heating device which can be used for the purpose of providing frost protection to agricultural crops, unless the design of such device has been approved by the California Air Resources Board.

302 USE OF ORCHARD HEATERS: A person shall not use any combustion heating device for the purpose of providing frost protection to agricultural crops, unless the design of such device has been approved by the California Air Resources Board.

**RULE 410
REDUCTION OF ANIMAL MATTER**

**Adopted 5-15-72
(Amended 6-1-76, 8-3-77)**

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500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

101 PURPOSE: To control odors from animal matter reduction facilities by treatment of gases, vapors and gas-entrained effluents.

102 EXEMPTIONS: The provisions of this rule shall not apply to any article, machine, equipment or other contrivance used exclusively for the processing of food for human consumption.

200 DEFINITIONS

201 REDUCTION: Any heated process, including rendering, cooking, drying, dehydrating, digesting, evaporating and protein concentrating.

300 STANDARDS

301 LIMITATIONS: A person shall not operate or use any article, machine, equipment or other contrivance for the

reduction of animal matter unless all gases, vapors and gas-entrained effluents from such an article, machine, equipment or other contrivance are:

301.1 Incinerated at temperatures of not less than 650oC (1202oF) for a period of not less than 0.3 seconds, or

301.2 Processed in such a manner determined by the Air Pollution Control Officer to be equally, or more, effective for the purpose of air pollution control than 301.1 above.

400 ADMINISTRATIVE REQUIREMENTS

401 MAINTENANCE OF EQUIPMENT: A person incinerating or processing gases, vapors or gas entrained effluents pursuant to the rule shall provide, properly install, and maintain in calibration and in good working order, operational devices as specified in the authority to construct or permit to operate or as specified by the Air Pollution Control Officer, for indicating temperature, pressure or other operating conditions.

RULE 411, NO_x FROM BOILERS, PROCESS HEATERS AND STEAM GENERATORS

Adopted 02-02-95

(Amended 11/7/96, 01/09/97, 7/22/99, 10/27/05, 8/23/07)

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100 GENERAL

- 101 **PURPOSE:** To limit NO_x and CO emissions from boilers, steam generators, and process heaters.
- 102 **APPLICABILITY:** The requirements of this Rule shall apply to units (i.e., boilers, steam generators and process heaters) fired on gaseous or nongaseous fuels with a rated heat input capacity of 1 million Btu per hour or greater.
- 110 **EXEMPTION - ELECTRIC UTILITY BOILERS:** The requirements of this Rule shall not apply to any unit that is exclusively used by an electric utility to generate electricity.
- 111 **EXEMPTION - PROCESS HEATERS, KILNS, AND FURNACES:** The requirements of this Rule shall not apply to process heaters, kilns, and furnaces where the products of combustion come into direct contact with the material to be heated.
- 112 **EXEMPTION - WASTE HEAT RECOVERY BOILERS:** The requirements of this Rule shall not apply to waste heat recovery boilers.
- 113 **EXEMPTION - LOW FUEL USAGE:**
- 113.1 The requirements of Sections 301 and 302 that are effective May 31, 1997, and 303 and 304 shall not apply to any unit rated at 5 million Btu per hour input or greater that uses less than 90,000 therms per year of fuel provided that the owner or operator complies with one of the requirements listed in Section 305. If the fuel usage for any unit claiming this exemption exceeds or equals 90,000 therms in any calendar year, then the unit must be operated in compliance with the applicable NO_x and CO emission limits in Sections 301 through 304. This exemption applies only to owners or operators that applied for use of this exemption on or before May 31, 1997, and received approval pursuant to Rule 201 – General Permit Requirements. Additionally, any unit exempt pursuant to this section must comply with the recordkeeping requirements in Section 502.
- 113.2 a. The requirements of Sections 301 and 302 that are effective pursuant to the applicable schedule in Section 407, shall not apply to any unit with annual usage below the applicable level in the table below

Boiler Size (mmBtu/hr)	Annual Fuel Usage (therms/yr)
1 - <2.5	40,000
≥2.5 - <5	70,000
≥5 - <100	200,000
≥100	300,000

if the owner or operator of the unit complies with all of the following:

1. The operational requirement in Section 305.1 or 305.2;
 2. The unit was installed prior to October 27, 2005, or installed after October 27, 2005 and permit application deemed complete prior to October 27, 2005;
 3. The monitoring requirement in Section 306.2;
 4. The recordkeeping requirements in Section 502; and
 5. A complete application for Authority to Construct pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS to establish fuel usage limitations is:
 - A. Submitted to the District by October 27, 2006; or
 - B. Submitted to the District after October 27, 2006 and includes records that clearly demonstrate that the unit has operated below the low fuel usage limits established above at all times since October 27, 2006.
- b. If after October 27, 2006 the annual fuel usage for any unit exempt pursuant

to this section exceeds or equals the level specified in the table in Section 113.2.a., then the unit must comply with the requirements in Section 405.

- 114 **EXEMPTION – STANDING PILOT FLAME BURNER:** The NO_x emission requirements in Section 301 shall not apply to a standing pilot flame burner that is used in a load following unit to sustain low steam demand. To qualify for this exemption, the standing pilot flame burner heat input rating shall not exceed 5 mmBtu/hr. Additionally, the NO_x emissions from the standing pilot flame shall not exceed 30 ppmvd @ 3% O₂, except for startup and shutdown periods. Any source test required by Section 403 shall include separate testing of the standing pilot flame burner for which this exemption is claimed.

200 DEFINITIONS

- 201 **ANNUAL FUEL USAGE (HEAT INPUT):** The total input of fuels burned by a unit in a calendar year, as determined from the higher heating value and cumulative annual usage of each fuel.
- 202 **BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY (BARCT):** Best available retrofit control technology as defined in Section 40406 of the California Health and Safety Code is "an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of sources." These limits are specified in Sections 301, 302, 303, and 304.
- 203 **BIOMASS:** Any solid, organic material used as a fuel source for boilers or steam generators including, but not limited to, wood, almond shells, or agricultural waste.
- 204 **BIOMASS BOILER OR BIOMASS STEAM GENERATOR:** A boiler or steam generator that burns a fuel containing biomass.
- 205 **BOILER OR STEAM GENERATOR:** Any external combustion equipment fired with any fuel used to produce hot water or steam, excluding waste heat recovery boilers.
- 206 **BRITISH THERMAL UNIT (BTU):** The amount of heat required to raise the temperature of one pound of water from 59 °F to 60 °F at one atmosphere.
- 207 **HEAT INPUT:** The chemical heat released due to fuel combustion in a combustion unit, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.
- 208 **GASEOUS FUEL:** Any fuel which is a gas at standard conditions.
- 209 **HIGH HEATING VALUE (HHV):** The total heat liberated per mass or volume of fuel burned (Btu per pound, cubic foot, or gallon), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. If certification of the HHV is not provided by the third party fuel supplier, it shall be determined by one of the test methods specified in Section 501.3.
- 210 **LANDFILL GAS:** Any gas derived through any biological process from the decomposition of waste buried within a waste disposal site.
- 211 **LOAD FOLLOWING UNIT:** A unit with normal operational load fluctuations and requirements, imposed by fluctuations in the process(es) served by the unit, which exceed the operational response range of an Ultra-Low NO_x burner system(s) operating at 9 ppmv NO_x. The operator shall designate load-following units on the Permit to Operate.
- 212 **MALFUNCTION:** Any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunction.

- 213 **NITROGEN OXIDES (NO_x):** The sum of nitric oxide and nitrogen dioxide in the flue gas.
- 214 **NONGASEOUS FUEL:** Any fuel which is not a gas at standard conditions.
- 215 **PARTS PER MILLION BY VOLUME (PPMV):** The ratio of the number of gas molecules of a given species, or group, to the number of millions of total gas molecules.
- 216 **PROCESS HEATER:** Any unit fired with any fuel which transfers heat from combustion gases to water or process streams, including reformers as defined in Section 218. Process heater does not include any dryer in which the material being dried is in direct contact with the products of combustion, cement or lime kilns, glass melting furnaces, or smelters.
- 217 **RATED HEAT INPUT CAPACITY:** The heat input capacity in million Btu per hour specified in the nameplate of the combustion unit. If the heat input capacity on the nameplate of the unit's burner is different than the heat input capacity on the nameplate of the unit's boiler, the heat input capacity of the burner will be used to determine rated heat input capacity. If the burner or boiler has been altered or modified such that its maximum heat input capacity is different than the heat input capacity specified on the name plate, the maximum heat input capacity shall be considered as rated heat input capacity.
- 218 **REFORMER:** A furnace in which a hydrocarbon feedstock is reacted with steam over a catalyst at high temperature to form hydrogen and lesser amounts of carbon monoxide and carbon dioxide.
- 219 **RETROFIT:** Any physical change to an emissions unit necessary for reducing NO_x and CO emissions to comply with the NO_x and CO emissions limits specified in Sections 301 through 304 of this rule, including, but not limited to, burner replacement, addition of emissions control equipment, and addition of oxygen trim systems. Changes in the method of operation shall not be considered as retrofit.
- 220 **SHUTDOWN:** The period of time a unit is cooled from its normal operating temperature. The shutdown period shall be limited to two hours.
- 221 **STANDARD CONDITIONS:** For the purpose of this rule, standard conditions are 68 °F and one atmosphere.
- 222 **STARTUP:** The period of time, not to exceed two hours, in which a unit is brought to its operating temperature and pressure immediately after a period in which the gas flow is shut off for a continuous period of 30 minutes or longer.
- 223 **THERM:** One hundred thousand (100,000) Btu's.
- 224 **UNIT:** Any boiler, including steam generator, as defined in Section 204 or Section 205, or process heater, as defined in Section 216.
- 225 **WASTE HEAT RECOVERY BOILER:** A device that recovers normally unused energy and converts it to usable heat. Waste heat recovery boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat recovery boiler are not considered waste heat recovery boilers, but are considered boilers. Waste heat recovery boilers are also referred to as heat recovery steam generators.
- 226 **WOOD:** Wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, dust from sanding, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

300 STANDARDS

- 301 **BARCT EMISSIONS LIMITS - GASEOUS FUEL FIRING:** Except as provided in Section 113, the NO_x and CO emissions from any unit shall not exceed the limits specified in the table below. The NO_x and CO emission limits shall be measured as parts per million by volume on a dry basis, as determined pursuant to Section 501, and corrected to three percent oxygen, when firing on gaseous fuels.

Unit Size/Description mmBtu/hr Input	Effective May 31, 1997		Effective (See Section 407)	
	NO _x Limit ppmvd@ 3% O ₂	CO Limit ppmvd@ 3% O ₂	NO _x Limit ppmvd@3 % O ₂	CO Limit ppmvd@ 3% O ₂
Greater than or equal to 1 and less than 5	-	-	30	400
Greater than or equal to 5 and less than or equal to 20	30	400	15	400
Greater than 20	30	400	9	400
Gas Fired Reformer Furnaces	30	400	30	400
Greater than or equal to 5 and fired on landfill gas or a combination of landfill gas and natural gas	30	400	15	400
Load Following Units greater than or equal to 5 mmBtu/hr input	30	400	15	400

- 302 **BARCT EMISSIONS LIMITS - NONGASEOUS FUEL FIRING:** Except as provided in Section 113, the NO_x and CO emissions from any unit shall not exceed the limits specified in the table below. The NO_x and CO emission limits shall be measured as parts per million by volume on a dry basis, as determined pursuant to Section 501, and corrected to three percent oxygen, when firing on nongaseous fuels.

Unit Size/Description mmBtu/hr Input	Effective May 31, 1997		Effective (See Section 407)	
	NO _x Limit ppmvd@3% O ₂	CO Limit ppmvd@3% O ₂	NO _x Limit ppmvd@3% O ₂	CO Limit ppmvd@3% O ₂
Greater than or equal to 1 and less than 5	-	-	40	400
Greater than or equal to 5	40	400	40	400

- 303 **BARCT EMISSIONS LIMITS - BIOMASS FUEL FIRING**
- 303.1 **NO_x Emissions:** Except as provided in Section 113.1, the NO_x emissions from any unit shall not exceed 70 parts per million by volume on a dry basis, as determined pursuant to Section 501, corrected to twelve percent carbon dioxide (70 ppmvd @ 12% CO₂), when firing on biomass fuels.
- 303.2 **CO Emissions:** Except as provided in Section 113.1, the CO emissions from any unit shall not exceed 400 parts per million by volume on a dry basis, as determined pursuant to Section 501, corrected to twelve percent carbon dioxide (400 ppmvd @ 12% CO₂), when firing on biomass fuels.
- 304 **EMISSION LIMIT - EMERGENCY STANDBY NONGASEOUS FUEL FIRING**
- 304.1 **NO_x Emissions:** The NO_x emissions from any unit which normally burns gaseous fuel but burns nongaseous fuel only during emergency interruption of gaseous fuel supply by the serving utility shall not exceed 150 parts per million by volume on a dry basis as determined pursuant to Section 501, corrected to three percent oxygen (150 ppmvd @ 3% O₂), when firing on nongaseous fuel. Operation of the unit under this

Section shall not exceed 168 hours per calendar year, excluding equipment and emission testing time, not exceeding 48 hours per calendar year.

305 **LOW FUEL USAGE:** Any unit exempted pursuant to Section 113 shall meet one of the following conditions:

305.1 The unit shall be operated in a manner that maintains stack-gas oxygen concentrations at less than or equal to 3.00 % by volume on a dry basis; or

305.2 The unit shall be tuned at least once per year by a qualified technician. If the unit is not operational for the entire calendar year, then no tune-up shall be required until re-startup of the unit. The tune-up shall be performed in accordance with the procedure described in ATTACHMENT A.

306 **EQUIPMENT REQUIREMENT - FUEL CONSUMPTION**

306.1 Owners or operators of units subject to the requirements of Section 304 shall install a non-resetting totalizing hour meter on each unit, or shall install a computerized tracking system that maintains a continuous daily record of hours of operation when the boiler is operated on nongaseous fuel.

306.2 Owners or operators of units exempt from the NO_x and CO requirements in Sections 301 through 303 pursuant to Section 113 because of low fuel usage shall:

a. Install a non-resetting totalizing fuel meter in the fuel line for each fuel burned. Each unit serviced by the fuel line shall have a meter installed to monitor fuel consumption. If a volumetric flow meter is installed, it must compensate for pressure and temperature using integral gauges; or

b. Install a non-resetting totalizing hour meter. This requirement shall apply to each unit. In this case, the fuel usage shall be calculated by multiplying the number of operating hours for the unit by the maximum fuel usage for the unit as specified by the unit manufacturer; or

c. Install a computerized tracking system that maintains a continuous daily record of hours of operation and/or fuel consumption rate for each fuel line. This requirement shall apply to each unit serviced by a fuel line. If only hours of operation are recorded, the fuel usage shall be calculated by multiplying the number of operating hours for the unit by the maximum fuel usage for the unit as specified by the unit manufacturer. If both hours of operation and fuel consumption rate are recorded, the actual recorded fuel consumption rate shall be integrated over the actual number of hours operated to determine total fuel usage.

400 ADMINISTRATIVE REQUIREMENTS

401 **LOW FUEL USAGE:**

401.1 The owner or operator of any unit claiming exemption pursuant to Section 113.1 that is required to install new fuel consumption monitoring equipment must comply with Section 306 by January 22, 2000. New fuel consumption equipment is required when one fuel meter, hour meter, or computerized tracking system serves multiple boilers and/or other equipment prior to July 22, 1999.

401.2 The owner or operator of any unit claiming exemption pursuant to Section 113.2 that is required to install new fuel consumption monitoring equipment must comply with Section 306 by October 27, 2007.

402 **REPORTING – TUNE-UP VERIFICATION:** The owner or operator of units subject to the requirements of Section 305.2 shall submit to the Air Pollution Control Officer a tune-up verification report or a verification of inactivity not less than once every calendar year for each unit.

403 **SOURCE TESTING FREQUENCY:** The owner or operator of units subject to the emissions limits set forth in Sections 301 through 303 shall perform emissions source testing using the test methods specified in Section 501 of this rule according to the following schedule and maintain records as provided in Section 502:

403.1 Except as provided in Section 405.2, an initial source test to verify compliance with

- the NO_x and CO emission limits effective **[See Section 407 for specific compliance dates]** listed in Sections 301 and 302 shall be conducted by the full compliance date specified in Section 407;
- 403.2. Any unit with a rated heat capacity of 20 million Btu per hour or greater shall be tested once every calendar year.
- 403.3. Any unit with a rated heat capacity greater than or equal to 5 million Btu per hour but less than 20 million Btu per hour shall be tested once every second calendar year.
- 403.4 **Small Units:** Any unit with a rated heat capacity greater than or equal to 1 million Btu per hour input and less than 5 million Btu per hour input shall be required to be tested to verify compliance with the NO_x and CO emission limits pursuant to Section 403.1. As an alternative to testing, the owner or operator of a unit subject to the requirements of this section may use a portable analyzer as part of an Air Pollution Control Officer approved alternate emissions monitoring system. The portable analyzer shall meet the specification standards in Attachment B.
- a. At least thirty days prior to the portable analyzer test, the owner or operator shall notify the Air Pollution Control Officer of the exact date and time of the test.
- 403.5 Any unit that is equipped with a continuous emission monitoring system (CEMs) shall conduct accuracy testing using the methods specified in Section 501 of this rule once every calendar year.
- 404 **SOURCE TESTING PROTOCOL:**
- 404.1 **Source Tests:** At least 30 days prior to the scheduled source test date, the owner or operator of a unit subject to this rule shall submit a source test plan to the Air Pollution Control Officer. At least seven days prior to the source test, the owner or operator shall notify the Air Pollution Control Officer of the exact date and time of the source test. A final source test report, and the applicable source test observation and evaluation fee as authorized under Rule 301, shall be submitted to the Air Pollution Control Officer within 60 days following the actual source test date.
- 404.2 **Portable Analyzer:** Emission readings using a portable analyzer pursuant to Section 403.4 shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced over the 15-consecutive-minute period. If the results of the portable analyzer show that the NO_x emissions from the unit exceed the allowable limits in Section 300, then the unit will be required to be source tested no later than 60 days from the date of discovering such exceedance.
- 405 **LOSS OF EXEMPTION:** If any unit with a Permit to Operate issued pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS approving an exemption from the requirements in Sections 301 or 302 pursuant to Section 113.2 exceeds or equals the levels specified in the table in Section 113.2 in any calendar year after October 27, 2006, the owner or operator shall:
- 405.1 Maintain compliance with the requirements of Section 305 until compliance is demonstrated with Section 301 or 302; and
- 405.2 Within 12 months after the end of the calendar year during which the unit exceeded or equaled the fuel usage exemption level, conduct an initial source test and demonstrate compliance with Section 301 or 302. The unit will subsequently not qualify for exemption pursuant to Section 113.2.
- 406 **ADMINISTRATIVE REQUIREMENTS FOR LOAD FOLLOWING UNITS:** The owner or operator of a load following unit shall submit to the Air Pollution Control Officer with their authority to construct application the following information to demonstrate that the unit(s) qualify as load-following:
- 406.1. Technical data such as steam demand charts or other information to demonstrate the normal operational load fluctuations and requirements of the unit;
- 406.2. Technical data showing the operational response range of all reasonably available Ultra-Low NO_x burner system(s) operating at 9 ppmv NO_x; and
- 406.3. Technical data demonstrating that the unit(s) are designed and operated to optimize the use of base-loaded units in conjunction with the load-following unit(s).

407 **COMPLIANCE SCHEDULE:** An owner or operator of any unit subject to Section 301 or 302 on or after October 27, 2005 shall comply with this Rule in accordance with the following schedules.

407.1 Except as provided in Section 407.2 and 407.3, for units installed prior to October 27, 2005 and permit application deemed complete by the Air Pollution Control Officer prior to October 27, 2005, or installed after October 27, 2005 and permit application deemed complete prior to October 27, 2005:

Number of Units subject to Sections 301 through 304	Number of these units required to be in full compliance by October 27, 2007	Number of these units required to be in full compliance by October 27, 2008	Number of these units required to be in full compliance by October 27, 2009
1 or 2	1	2	N/A
3	1	2	3
4	2	3	4
5 or 6	2	4	6
More than 6	25% of these units	75% of these units	100% of these units

Note: Full Compliance identifies the date by which the owner shall demonstrate that each unit is in compliance with this rule.

407.2 For units installed after October 27, 2005 and permit application deemed complete by the Air Pollution Control Officer after October 27, 2005: date of installation.

407.3 For units installed prior to October 27, 2005 and permit application deemed complete by the Air Pollution Control Officer after October 27, 2005: October 27, 2006.

500 MONITORING AND RECORDS

501 TEST METHODS

501.1 GASEOUS EMISSIONS: SOURCE TEST:

- a. Compliance with the NO_x and CO emission requirements and the stack gas oxygen requirements of Sections 301 through 304 shall be determined using the test methods specified below. All emissions determinations shall be made in the as-found operating condition, except no compliance determination shall be established during unit startup as defined in Section 222, or shutdown as defined in Section 220. Tests shall be conducted while units are operating at a firing rate that is as close as physically possible to the unit's rated heat input capacity. Tests shall be conducted for three 40 minute runs. Results shall be averaged over the three test periods. Test reports shall include the operational characteristics of all flue-gas NO_x reduction equipment.
 1. Oxide of Nitrogen - ARB Method 100 or EPA Method 7E.
 2. Carbon Monoxide - ARB Method 100 or EPA Method 10.
 3. Stack Gas Oxygen - ARB Method 100 or EPA Method 3A.
 4. Carbon Dioxide - ARB Method 100 or EPA Method 3A.
- b. A scheduled source test may not be discontinued solely due to the failure of one or more runs to meet applicable standards.
- c. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of one of the following reasons, then compliance may be determined using the average of the other two runs:
 1. Forced shutdown; or
 2. Failure of an irreplaceable portion of the sampling train; or
 3. Extreme meteorological conditions presenting a hazard to the sampling team; or
 4. Other circumstances beyond the owner or operators control as determined by the Air Pollution Control Officer.

- d. A source test not conducted pursuant to the source test methods listed in Section 501.1(a) may be rejected and the test report determined to be invalid.

501.2 **GASEOUS EMISSIONS: CONTINUOUS EMISSIONS MONITORING SYSTEMS**

(CEMS): Compliance with NO_x emission requirements specified in Sections 301 through 304 may also be determined using CEMS. All emissions determinations shall be made in the as-found operating condition, except no compliance determination shall be established during unit startup as defined in Section 222, or shutdown as defined in Section 220. Where the unit(s) are equipped with CEMS:

- a. **General:** All CEMS must be installed according to the procedures specified in 40CFR60.13g. All CEMS shall be installed such that a representative measurement of emissions is obtained. Additional procedures for the location of CEMS found in 40CFR60 Appendix B shall be used. The data recorder for CEMS shall be in operation at all times the unit is operated.
- b. **Cycle time:** The owner or operator of any unit using a continuous emission monitoring system (CEM) shall ensure that the CEM system completes a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute period.
- c. **Calibration:** Zero and span shall be checked once every 24 hours. The CEMS shall be calibrated in accordance with the manufacturer's specifications.
- d. **Averaging:** The data recorded during periods of calibration checks, zero and span adjustments shall not be included in averaging for compliance determinations. Compliance shall be determined on an hourly basis using the average of the 3 previous 1 hour average emissions concentrations. The 1-hour average emissions concentration shall be determined from at least two data points recorded by the CEMs.
- e. **Accuracy Testing:** Accuracy testing of Continuous Emission Monitoring Systems shall be conducted using a relative accuracy test audit pursuant to 40CFR60 Appendix F.

501.3 **HIGH HEAT VALUE:** HHV shall be determined by one of the following test methods:

- a. ASTM D 2015-85 for solid fuels; or
- b. ASTM D 240-02 or ASTM D 3282-88 for liquid hydrocarbon fuels; or
- c. ASTM D 1826-94, or ASTM D 1945-96 in conjunction with ASTM D 3588-89 for gaseous fuels.

502 **RECORDKEEPING**

- 502.1 The owner or operator of units subject to the requirements of Section 304 and 306.1 shall monitor and record for each unit the cumulative calendar year hours of operation on each emergency standby non-gaseous fuel.
- 502.2 The owner or operator of units exempt pursuant to Section 113 and subject to the requirements of Sections 305 and 306.2a or 306.2c for fuel consumption shall record for each unit the HHV and the calendar year gaseous and non-gaseous fuel usage.
- 502.3 The owner or operator of units exempt pursuant to Section 113 and subject to the requirements of Sections 305 and 306.2b or 306.2c for hours of operation shall record for each unit the HHV, calendar year hours of operation, and the calendar year calculated fuel usage.
- 502.4 An owner or operator subject to the requirements in Section 403.4 using a portable analyzer to verify compliance with the NO_x and CO emission limits shall keep records of the measured NO_x and CO emissions, and all data as specified in Attachment B.
- 502.5 The owner or operator of any unit subject to Section 501 of this rule shall maintain copies of all CEMS data and final source test reports as applicable.
- 502.6 Records shall be maintained on-site for a continuous 5-year period and made available for review by the Air Pollution Control Officer upon request.

Attachment A**Tuning Procedure¹****A. Equipment Tuning Procedure for Forced-Draft Boilers, Steam Generators, and Process Heaters**

Nothing in this Tuning Procedure shall be construed to require any act or omission that would result in unsafe conditions or would be in violation of any regulation or requirement established by Factory Mutual, Industrial Risk Insurers, National Fire Prevention Association, the California Department of Industrial Relations (Occupational Safety and Health Division), the Federal Occupational Safety and Health Administration, or other relevant regulations and requirements.

1. Operate the unit at the firing rate most typical of normal operation. If the unit experiences significant load variations during normal operation, operate it at its average firing rate.
2. At this firing rate, record stack gas temperature, oxygen concentration, and CO concentration (for gaseous fuels) or smoke-spot number² (for liquid fuels), and observe flame conditions after unit operation stabilizes at the firing rate selected. If the excess oxygen in the stack gas is at the lower end of the range of typical minimum values³ and if the CO emissions are low and there is no smoke, the unit is probably operating at near optimum efficiency - at this particular firing rate. However, complete the remaining portion of this procedure to determine whether still lower oxygen levels are practical.
3. Increase combustion air flow to the furnace until stack gas oxygen levels increase by one to two percent over the level measured in Step 2. As in Step 2, record the stack gas temperature, CO concentration (for gaseous fuels) or smoke-spot number (for liquid fuels), and observe flame conditions for these higher oxygen levels after boiler operation stabilizes.
4. Decrease combustion air flow until the stack gas oxygen concentration is at the level measured in Step 2. From this level gradually reduce the combustion air flow, in small increments. After each increment, record the stack gas temperature, oxygen concentration, CO concentration (for gaseous fuels) and smoke-spot number (for liquid fuels). Also, observe the flame and record any changes in its condition.
5. Continue to reduce combustion air flow stepwise, until one of these limits is reached:
 - a. Unacceptable flame conditions - such as flame impingement on furnace walls or burner parts, excessive flame carryover, or flame instability.
 - b. Stack gas CO concentrations greater than 400 ppm.
 - c. Smoking at the stack.
 - d. Equipment-related limitations - such as low wind box/furnace pressure differential, built in air-low limits, etc.

¹. This tuning procedure is based on a tune-up procedure developed by KVB, Inc. for the EPA.

². The smoke-spot number can be determined with ASTM test method D-2156 or with the Bacharach method.

³. Typical minimum oxygen levels for boilers at high firing rates are:

1. For natural gas: 0.5 - 3%
2. For liquid fuels: 2 - 4%

6. Develop an O₂ /CO curve (for gaseous fuels) or O₂/smoke curve (for liquid fuels) similar to those shown in Figures 1 and 2 using the excess oxygen and CO or smoke-spot number data obtained at each combustion air flow setting.
7. From the curves prepared in Step 6, find the stack gas oxygen levels where the CO emissions or smoke-spot number equal the following values:

Fuel	Measurement	Value
Gaseous	CO Emissions	400 ppm
#1 and #2 oils	smoke-spot number	number 1
#4 Oil	smoke-spot number	number 2
#5 Oil	smoke-spot number	number 3
Other oils	smoke-spot number	number 4

The above conditions are referred to as the CO or smoke thresholds, or as the minimum excess oxygen levels.

Compare this minimum value of excess oxygen to the expected value provided by the combustion unit manufacturer. If the minimum level found is substantially higher than the value provided by the combustion unit manufacturer, burner adjustments can probably be made to improve fuel and air mix, thereby allowing operations with less air.

8. Add 0.5 to 2.0 percent to the minimum excess oxygen level found in Step 7 and reset burner controls to operate automatically at this higher stack gas oxygen level. This margin above the minimum oxygen level accounts for fuel variations, variations in atmospheric conditions, load changes, and nonrepeatability or play in automatic controls.
9. If the load of the combustion unit varies significantly during normal operation, repeat Steps 1-8 for firing rates that represent the upper and lower limits of the range of the load. Because control adjustments at one firing rate may affect conditions at other firing rates, it may not be possible to establish the optimum excess oxygen level at all firing rates. If this is the case, choose the burner control settings that give best performance over the range of firing rates. If one firing rate predominates, setting should optimize conditions at the rate.
10. Verify that the new settings can accommodate the sudden load changes that may occur in daily operation without adverse effects. Do this by increasing and decreasing load rapidly while observing the flame and stack. If any of the conditions in Step 5 result, reset the combustion controls to provide a slightly higher level of excess oxygen at the affected firing rates. Next, verify these new settings in a similar fashion. Then make sure that the final control settings are recorded at steady-state operating conditions for future reference.

Figure 1
Oxygen/CO Characteristic Curve

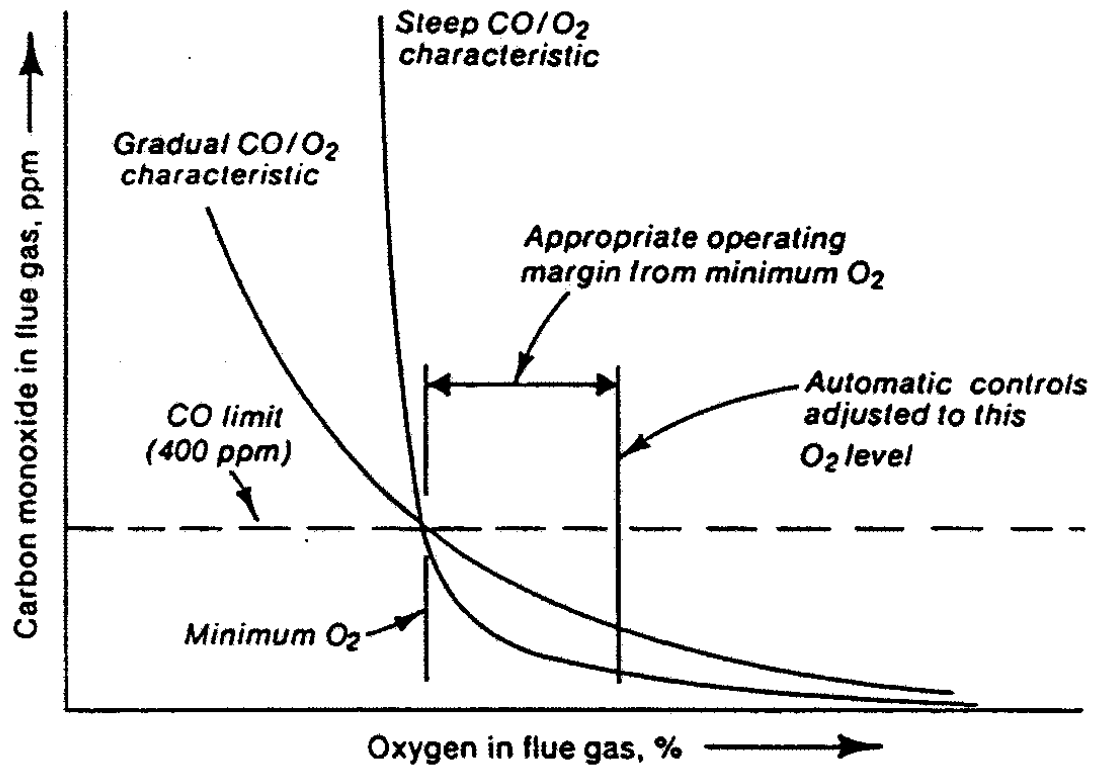
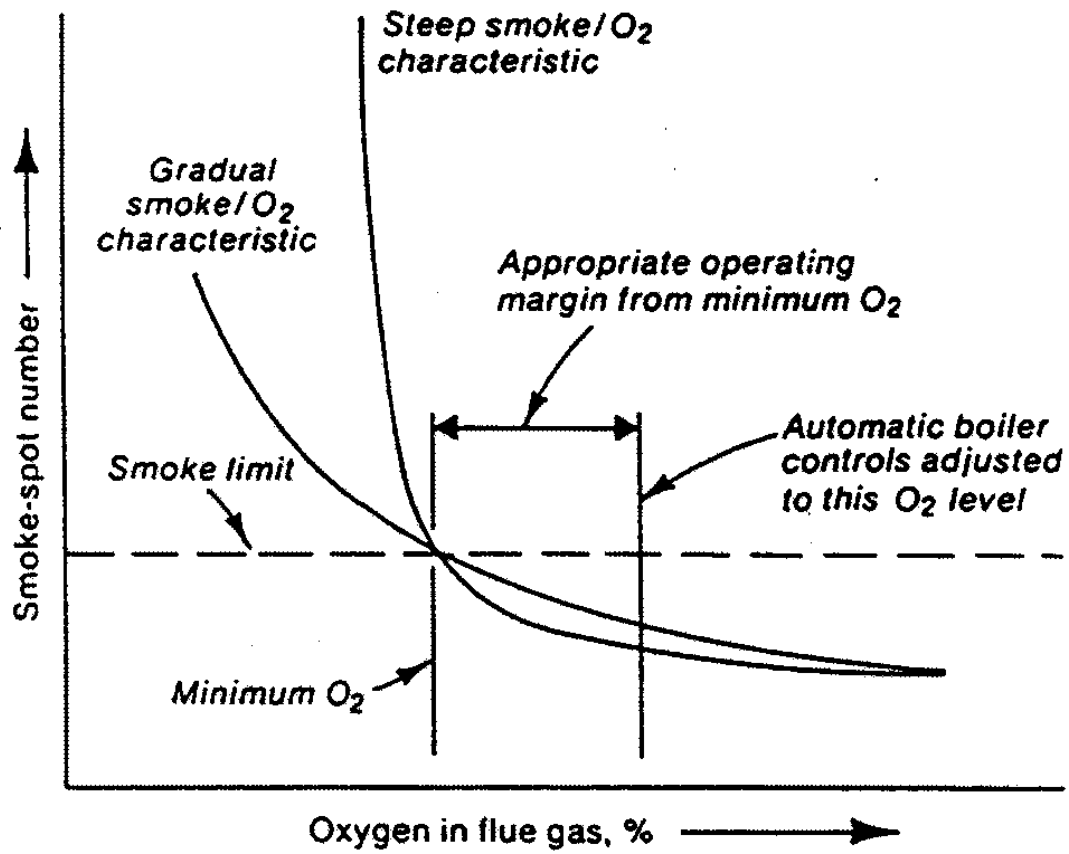


Figure 2
Oxygen/Smoke Characteristic Curve



B. Equipment Tuning Procedure for Natural Draft-Fired Boilers, Steam Generators, and Process Heaters.

Nothing in this Tuning Procedure shall be construed to require any act or omission that would result in unsafe conditions or would be in violation of any regulation or requirement established by Factory Mutual, Industrial Risk Insurers, National Fire Prevention Association, the California Department of Industrial Relations (Occupational Safety and Health Division), the Federal Occupational Safety and Health Administration, or other relevant regulations, and requirements.

1. PRELIMINARY ANALYSIS**a. CHECK THE OPERATING PRESSURE OR TEMPERATURE.**

Operate the boiler, steam generator, or heater at the lowest acceptable pressure or temperature that will satisfy the load demand. This will minimize heat and radiation losses. Determine the pressure or temperature that will be used as a basis for comparative combustion analysis before and after tuneup.

b. CHECK OPERATING HOURS.

Plan the workload so that the boiler, steam generator, or process heater operates only the minimum hours and days necessary to perform the work required. Fewer operating hours will reduce fuel use and emissions.

c. CHECK AIR SUPPLY.

Sufficient fresh air supply is essential to ensure optimum combustion and the area of air supply openings must be in compliance with applicable codes and regulations. Air openings must be kept wide open when the burner is firing and clear from restriction to flow.

d. CHECK VENT.

Proper venting is essential to assure efficient combustion. Insufficient draft or overdraft promotes hazards and inefficient burning. Check to be sure that vent is in good condition, sized properly and with no obstructions.

e. COMBUSTION ANALYSIS.

Perform an "as is" combustion analysis (CO, O₂, etc.) with a warmed up unit at high and low fire, if possible. In addition to data obtained from combustion analysis, also record the following:

ii. Inlet fuel pressure at burner (at high & low fire)

ii. Draft above draft hood or barometric damper

1) Draft hood: high, medium, and low

2) Barometric Damper: high, medium, and low

iii. Steam pressure, water temperature, or process fluid pressure or temperature entering and leaving the boiler, steam generator, or process heater.

iv. Unit rate if meter is available.

With above conditions recorded, make the following checks and corrective actions as necessary:

1. CHECKS & CORRECTIONS**a. CHECK BURNER CONDITION.**

Dirty burners or burner orifices will cause boiler, steam generator, or process heater output rate and thermal efficiency to decrease. Clean burners and burner orifices thoroughly. Also, ensure that fuel filters and moisture traps are in place, clean, and operating properly, to prevent plugging of gas orifices. Confirm proper location and orientation of burner diffuser spuds, gas canes, etc. Look for any burned-off or missing burner parts, and replace as needed.

- b. CHECK FOR CLEAN BOILER, STEAM GENERATOR, OR PROCESS HEATER TUBES & HEAT TRANSFER SURFACES.

External and internal build-up of sediment and scale on the heating surfaces creates an insulating effect that quickly reduces unit efficiency. Excessive fuel cost will result if the unit is not kept clean. Clean tube surfaces, remove scale and soot, assure proper process fluid flow and flue gas flow.

- c. CHECK WATER TREATMENT & BLOWDOWN PROGRAM.

Soft water and the proper water or process fluid treatment must be uniformly used to minimize scale and corrosion. Timely flushing and periodic blowdown must be employed to eliminate sediment and scale build-up on a boiler, steam generator or process heater.

- d. CHECK FOR STEAM, HOT WATER OR PROCESS FLUID LEAKS

Repair all leaks immediately since even small high-pressure leaks quickly lead to considerable fuel, water and steam losses. Be sure there are no leaks through the blow-off, drains, safety valve, by-pass lines or at the feed pump, if used.

2. SAFETY CHECKS

- a. Test primary and secondary low water level controls.
- b. Check operating and limit pressure and temperature controls.
- c. Check pilot safety shut off operation.
- d. Check safety valve pressure and capacity to meet boiler, steam generator or process heater requirements.
- e. Check limit safety control and spill switch.

3. ADJUSTMENTS

While taking combustion readings with a warmed up boiler, steam generator, or process heater at high fire perform checks and adjustments as follows:

- a. Adjust unit to fire at rate; record fuel manifold pressure.
- b. Adjust draft and/or fuel pressure to obtain acceptable, clean combustion at both high, medium and low fire. Carbon Monoxide (CO) value should always be below 400 parts per million (PPM) at 3% O₂. If CO is high make necessary adjustments.

Check to ensure boiler, steam generator, or process heater light offs are smooth and safe. A reduced fuel pressure test at both high and low fire should be conducted in accordance with the manufacturers instructions and maintenance manuals.

- c. Check and adjust operation of modulation controller. Ensure proper, efficient and clean combustion through range of firing rates.

When above adjustments and corrections have been made, record all data.

4. FINAL TEST

Perform a final combustion analysis with a warmed up boiler, steam generator, or process heater at high, medium and low fire, whenever possible. In addition to data from combustion analysis, also check and record:

- a. Fuel pressure at burner (High, Medium, and Low).
- b. Draft above draft hood or barometric damper (High, Medium and Low).
- c. Steam pressure or water temperature entering and leaving boiler, steam generator, or process heater.
- d. Unit rate if meter is available.

When the above checks and adjustments have been made, record data and attach combustion analysis data to boiler, steam generator, or process heater records indicating name and signature of person, title, company name, company address and date the tune-up was performed.

Attachment B**Approvable Portable Analyzer**

A. **General:** A portable analyzer consists of a sample interface, a gas detector, and a data recorder, and is used to quantitatively analyze stack gas for one or more components. A portable analyzer for CO, O₂, or NO_x shall be considered approved by the District if it adheres to the standards that are set forth in this section, is used in accordance with the standards of this section, and is used in accordance with the manufacturer's specifications. Other portable analyzers and techniques are approvable on a case by case basis.

B. **Definitions:**

Sample interface: That portion of the portable analyzer used for one or more of the following: sample acquisition, sample transport, sample conditioning, or protection of the portable analyzer from the effects of the stack effluent.

Gas detector: That portion of the portable analyzer that senses the gas to be measured and generates an output proportional to the gas concentration.

Data recorder: A strip chart recorder, digital recorder, or any other device used for recording or displaying measurement data from the gas detector output.

Resolution: The smallest increment of output that the gas detector will provide. This value should be reported by the equipment manufacturer.

Error: The maximum standard measurement error over the measurement range. This value should be reported by the equipment manufacturer.

Detection Limit: The lowest concentration of gas that can be detected by the gas detector. This value should be reported by the equipment manufacturer.

Response Time: The amount of time required for the portable analyzer to display 95% of a step change in gas concentration on the data recorder.

C. **Equipment:** The portable analyzer shall adhere to the standards tabulated below for each of the pollutants that it is intended to measure. All values in the table refer to maximum values. In addition to the parameters contained in the table, the minimum upper limit of the measurement range shall be equal to 1.5 times the emission limit for the species being measured.

Detector	Resolution	Error	Detection Limit	Response Time
CO	20 ppm	± 50 ppm	50 ppm	1 min
O ₂	0.5%	± 1.0%	0%	1 min
NO _x	2 ppm	± 5 ppm	5 ppm	1 min

D. **Calibration:** Each gas detector shall be calibrated a minimum of once every six months and all instrument calibration data shall be kept on file with the monthly analyses. If the manufacturer recommends calibration more than once every six months, then the instrument calibration shall follow the manufacturer's recommended interval. Two calibration gases are required, the upper limit calibration gas shall have a concentration of 60-100% of the upper limit of the measurement range and the lower limit calibration gas shall have a concentration from 0-10% of the upper limit of the measurement range. Ambient air may be used as the upper limit calibration gas for O₂ and may be used as the lower limit calibration gas for both NO_x and CO. The system response time shall be determined during the gas detector calibration. The portable analyzer shall first be purged with ambient air. Calibration gas is then provided to the portable analyzer through a tubing length typically used during analysis. The time necessary for the data recorder to display a concentration equal to 95% of the final steady state concentration shall be recorded as the response time.

E. Measurement:

1. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate.
2. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements.
3. The concentration of NO_x is calculated as the sum of the volumetric concentrations of both NO and NO₂. The portable analyzer used to detect NO_x must either convert NO₂ to NO and measure NO, convert NO to NO₂ and measure NO₂, or measure both NO and NO₂. An NO₂ to NO converter is not necessary if data are presented to demonstrate that the NO₂ portion of the exhaust gas is less than 5 percent of the total NO_x concentration.

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RULE 412

**STATIONARY INTERNAL COMBUSTION ENGINES
LOCATED AT MAJOR STATIONARY SOURCES OF NO_x**

Adopted 06-01-95

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100 GENERAL

101 **PURPOSE:** To limit emissions of nitrogen oxides, carbon monoxide, and non-methane hydrocarbons from the operation of stationary internal combustion engines located at a major stationary source of nitrogen oxides.

102 **APPLICABILITY:** This rule applies to any stationary internal combustion engine in the District rated at more than 50 brake horsepower located at a major stationary source of nitrogen oxides.

110 **EXEMPTION, EMERGENCY STANDBY:** The provisions of Section 301, Section 302, Section 303 and Section

400 shall not apply to the operation of stationary internal combustion engines used for emergency standby.

111 EXEMPTION, AGRICULTURAL OPERATIONS: The provisions of this rule shall not apply to the operation of stationary internal combustion engines used directly and exclusively for agricultural operations necessary for the growing of crops or the raising of fowl or animals.

112 EXEMPTION, TEST STANDS: The provisions of this rule shall not apply to the operation of stationary internal combustion engines mounted on test stands used for evaluating engine performance.

113 EXEMPTION, EMISSION CONTROL EVALUATION: The provisions of Section 301, Section 302, Section 303, and Section 400 shall not apply to the operation of stationary internal combustion engines used exclusively for research, design and evaluation of emission control devices.

114 EXEMPTION, NONROAD INTERNAL COMBUSTION ENGINE: The provisions of this rule shall not apply to nonroad internal combustion engines.

115 EXEMPTION, MOTOR VEHICLE ENGINES: The provisions of this rule shall not apply to motor vehicle engines.

116 EXEMPTION, FLIGHT LINE INTERNAL COMBUSTION ENGINE: The provisions of this rule shall not apply to internal combustion engines used as support for flight line operations.

200 DEFINITIONS

201 ACTUAL INTERRUPTIONS OF POWER: When electrical service is interrupted by an unforeseeable event.

202 ANNUAL HOURS OF OPERATION: The hours a stationary internal combustion engine operates in a calendar year.

203 BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY (BARCT): Best available retrofit control technology as defined in Section 40406 of the California Health and Safety Code is "an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of sources."

204 EMERGENCY STANDBY ENGINE: Any stationary internal combustion engine which does not exceed one hundred (100) hours per year of operation for maintenance purposes and operates under one or more of the following conditions:

204.1 The provision of emergency electrical power during actual interruptions of electrical power, or;

204.2 The provision of emergency water pumping for flood control, or;

204.3 The provision of emergency water pumping for fire control, or;

204.4 The provision of emergency electrical power for emergency incident response by specially trained personnel in law enforcement, medicine or hazardous material incident response.

205 ENGINE RATING: The output of a stationary internal combustion engine as determined by the engine manufacturer and listed on the nameplate of the unit.

206 INTERNAL COMBUSTION ENGINE: A heat engine in which the combustion that generates the heat takes place inside the engine proper instead of in a furnace.

207 LEAN-BURN ENGINE: Any internal combustion engine that is not a rich-burn engine.

208 **LOCATION:** Any single site at a building, structure, facility, or installation.

209 **MAJOR STATIONARY SOURCE OF NITROGEN OXIDES:** A stationary source whose potential to emit exceeds 25 tons per year of nitrogen oxides.

210 **MOTOR VEHICLE ENGINE:** Any internal combustion engine used to propel a motor vehicle.

211 **MOTOR VEHICLE:** Any device, self propelled by an internal combustion engine.

212 **NONROAD INTERNAL COMBUSTION ENGINE:** Any internal combustion engine that:

212.1 is not a motor vehicle engine; and

212.2 is not regulated by a federal New Source Performance Standard promulgated under section 111 of the Federal Clean Air Act; and

212.3 by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform; and

212.4 does not remain at a location for more than 12 consecutive months. Any engine, such as a back-up or stand-by engine, that replaces an engine at a location and is intended to perform the same function as the engine being replaced will be included in calculating the consecutive time period. In that case, the cumulative time of both engines, including the time between the removal of the original engine and installation of the replacement engine, would be counted toward the consecutive residence time period. In addition, an engine that is moved from its location but does not need to be moved from its location to perform its function shall be deemed to have remained at a single location. or

212.5 remains at a location less than 12 consecutive months where such a period represents the full length of normal annual source operations, such as a seasonal source.

213 **POTENTIAL TO EMIT:** The maximum physical and operational design capacity to emit a pollutant. Limitations on the physical or operational design capacity, including emissions control devices and limitations on hours of operation, may be considered only if such limitations are incorporated into the applicable authority to construct and permit to operate. Fugitive emissions associated with the emissions unit or stationary source shall not be included in the potential to emit of the emissions unit or stationary source unless the source belongs to one of the following categories of stationary sources:

213.1 Coal cleaning plants (with thermal dryers);

213.2 Kraft pulp mills;

213.3 Portland cement plants;

213.4 Primary zinc smelters;

213.5 Iron and steel mills;

213.6 Primary aluminum ore reduction plants;

213.7 Primary copper smelters;

213.8 Municipal incinerators capable of charging more than 250 tons of refuse per day

213.9 Hydrofluoric, sulfuric, or nitric acid plant;

- 213.10 Petroleum refineries;
- 213.11 Lime plants;
- 213.12 Phosphate rock processing plants;
- 213.13 Coke oven batteries;
- 213.14 Sulfur recovery plants;
- 213.15 Carbon black plants (furnace process);
- 213.16 Primary lead smelters;
- 213.17 Fuel conversion plants;
- 213.18 Sintering plants;
- 213.19 Secondary metal production plants;
- 213.20 Chemical process plants;
- 213.21 Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
- 213.22 Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- 213.23 Taconite ore processing plants;
- 213.24 Glass fiber processing plants;
- 213.25 Charcoal production plants;
- 213.26 Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input;
or
- 213.27 All other stationary source categories regulated by a standard promulgated under Section 111 or 112 (42 U.S.C. Section 7411 or 7412) of the Federal Clean Air Act, but only with respect to those air pollutants that have been regulated for that category.

214 **REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT):** The lowest emission limitation that a particular unit is capable of meeting by using measures that are reasonably available in terms of technological and economic feasibility.

215 **RETROFITTING:** Retrofitting is the addition of air pollution control equipment to the exhaust stream or physical modification to the combustion system excluding adjustment of an stationary internal combustion engine in order to meet the RACT standards contained in Section 301. Changes in the method of operation shall not be considered as retrofit.

216 **RICH-BURN ENGINE:** A two or four stroke spark-ignited internal combustion engine where the manufacturer's original recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio is less than or equal to 1.1.

217 **STATIONARY INTERNAL COMBUSTION ENGINE:** Any internal combustion engine that:

- 217.1 is not a motor vehicle engine; and

217.2 is not a nonroad engine.

218 STATIONARY SOURCE: Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission.

218.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:

- a. belong to the same industrial grouping, and
- b. are located on one property or on two or more contiguous properties, and
- c. are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.

218.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:

- a. they belong to the same two-digit standard industrial classification code, or
- b. they are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)

300 STANDARDS

301 RACT EMISSION LIMITS: After July 1, 1995, an owner or operator of any engine subject to this rule shall not operate the engine unless the engine meets the following emission limits. If retrofitting is required, the engine is exempt from the limits of this Section provided the owner or operator complies with Sections 302 and 401.3

ENGINE OPERATING CONDITIONS	EMISSIONS LIMIT (ppmv @ 15% O2)		
	NOx	CO	NMHC
Spark Ignited Rich Burn	50	4000	250
Spark Ignited Lean Burn	125	4000	750
Compression Ignited	700	4000	750

302 BARCT EMISSION LIMITS:

302.1 Spark Ignited Rich Burn:

- a. Except as provided in Table 2 of Section 302.1.b or Section 303 an owner or operator of any spark-ignited rich burn stationary internal combustion engine subject to Section 300 shall not operate the engine unless the engine meets the emission limits in Table 1:

TABLE 1: SPARK IGNITED RICH BURN		
EMISSION LIMITS EXPRESSED AS PPMV @ 15% O2		
NOX	CO	NMHC
25	4,000	250

- b. If a spark-ignited rich burn stationary internal combustion engine with an engine rating less than or equal to 525 horsepower is operated less than the hours listed in Table 2, the engine shall be exempt from the requirements of Section 302.1.a. If the hours of operation exceed the hours listed for any unit for any calendar year, then the unit must be operated in compliance with the applicable emissions limits in Section

302.1.a.

TABLE 2: SPARK IGNITED RICH BURN EXEMPTION FROM TABLE 1 EMISSION LIMITS		
If engine rating is greater than...	...but less than or equal to..	and the actual annual hours of operation are less than or equal to...
50 hp	75 hp	200 hours
75 hp	125 hp	120 hours
125 hp	155 hp	100 hours
155 hp	200 hp	80 hours
200 hp	300 hp	60 hours
300 hp	400 hp	45 hours
400 hp	525 hp	40 hours

302.2 Spark Ignited Lean Burn: Except as provided in Section 303 an owner or operator of any spark-ignited lean burn stationary internal combustion engine shall not operate the engine unless the engine meets the emission limits in Table 3:

TABLE 3: SPARK IGNITED LEAN BURN EMISSION LIMITS EXPRESSED AS PPMV @ 15% O2		
NOX	CO	NMHC
65	4,000	750

302.3 Compression Ignited Engine:

a. Except as provided in Table 5 of Section 302.3.b or Section 303 an owner or operator of any compression ignited stationary internal combustion engine shall not operate the engine unless the engine meets the emission limits in Table 4:

TABLE 4: COMPRESSION IGNITED EMISSION LIMITS EXPRESSED AS PPMV @ 15% O2		
NOX	CO	NMHC
80	4,000	750

b. If a compression ignited stationary internal combustion engine with an engine rating less than or equal to 525 horsepower is operated less than the hours listed in Table 5, the engine shall be exempt from the requirements of Section 302.3.a. If the hours of operation exceed the hours listed for any unit for any calendar year, then the unit must be operated in compliance with the applicable emissions limits in Section 302.3.a.

TABLE 5: COMPRESSION IGNITED		

EXEMPTION FROM TABLE 4 EMISSION LIMITS		
If engine rating is greater than...	...but less than or equal to...	and the actual annual hours of operation are less than or equal to...
50 hp	75 hp	1,435 hours
75 hp	125 hp	830 hours
125 hp	155 hp	565 hours
155 hp	200 hp	460 hours
200 hp	300 hp	365 hours
300 hp	400 hp	250 hours
400 hp	525 hp	200 hours

303 ALTERNATIVE CONTROL REQUIREMENT: As an alternative to the NOX emission limit specified in Section 302 a stationary internal combustion engine shall achieve and maintain a percent NOX reduction by volume limit specified below as measured concurrently across an emission control device. If internal modifications are made to an engine the percent reduction shall be calculated from source test data before and after internal modification.

303.1 Spark ignited rich burn 90 percent

303.2 Spark ignited lean burn 90 percent

303.3 Compression ignited 90 percent

304 EQUIPMENT REQUIREMENT: The owner or operator of any stationary internal combustion engine, except for those engines being removed from service under Section 401.5, subject to any provision of this rule shall install one of the following:

304.1 HOUR METER: A non-resetting totalizing hour meter on each engine by (12 months after date of adoption).

304.2 COMPUTERIZED TRACKING: A computerized tracking system that maintains a continuous daily record of hours of operation.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE:

401.1 RACT EMISSION LIMITS: Any non-exempt stationary internal combustion engine that is subject to the rule and has operated in the District prior to (date of adoption) shall comply with the applicable limits by July 1, 1995 unless retrofitting is required. If retrofitting is required the engine shall comply with Section 401.3 and either Section 401.4 or Section 401.5.

401.2 BARCT EMISSION LIMITS: Any non-exempt stationary internal combustion engine that is subject to the emission limits of Section 302 shall comply with the applicable limits by May 31, 1997 in accordance with Section 401.3 and either Section 401.4 or Section 401.5

401.3 CURRENT EMISSION LEVEL: The owner or operator of any non-exempt stationary internal combustion engine subject to Section 401.1 or Section 401.2 must comply with the following requirements by July 1, 1995:

- a. Submit a current emission level for each engine to the Air Pollution Control Officer.

b. A description of the method used to determine the current emission level.

401.4 INCREMENTS OF PROGRESS: The owner or operator of any stationary internal combustion engine subject to Section 302 must comply with the following requirements:

a. By July 1, 1995 submit a compliance plan to the Air Pollution Control Officer for each unit which includes the following information:

1. The retrofitting required to meet the limits of Section 302 or Section 303.
2. A schedule demonstrating compliance with the emission limits of Section 302 or Section 303 and the remaining increments of this Section

b. By January 31, 1996 submit a complete application for an Authority to Construct for the modifications or equipment necessary to meet the applicable emission limits contained in Section 302 or Section 303 to the Air Pollution Control Officer.

b. By November 30, 1996 begin construction.

c. By March 31, 1997 complete construction.

d. By May 31, 1997 comply with the emission limits of Section 302 or Section 303. This shall include the submittal of a complete source test report indicating compliance.

401.5 REMOVAL FROM SERVICE: The owner or operator of any stationary internal combustion engine operated in the District prior to (date of adoption) that is expected to be removed from service by May 31, 1999 shall comply with the following:

a. By July 1, 1995, submit to the Air Pollution Control Officer a petition (a petition form can be obtained from the District) requesting an exemption from the requirements of Section 301 through 303.

b. By January 31, 1996, submit to the Air Pollution Control Officer a compliance plan containing the following information:

1. A complete application for an Authority to Construct for modification of the Permit to Operate.

c. By May 31, 1999, discontinue operation of the stationary internal combustion engine unit, disconnect fuel supply line(s), and notify the Air Pollution Control Officer, in writing, of the removal from service.

402 SOURCE TESTING FREQUENCY: The owner or operator of any stationary internal combustion engine subject to the requirements of Sections 301 through 303 shall conduct source testing every eight thousand seven hundred sixty (8,760) hours of operation or five (5) years which ever is the shorter time period.

500 MONITORING AND RECORDS

501 RECORDKEEPING REQUIREMENTS:

501.1 The owner or operator of any stationary internal combustion engine subject to any provision of this rule shall maintain an operation record containing, at a minimum, the following data:

a. Permit number of each stationary internal combustion engine.

b. Manufacturer, model number and rating in horsepower of each stationary internal combustion engine.

c. Actual quarterly hours of operation of each stationary internal combustion engine.

d. Maintain copies of most recent emission tests including date and results reported as ppmv @ 15% O₂ of NO_x and pounds per unit time of NO_x.

501.2 The owner or operator of any stationary internal combustion engine subject to any provision of this rule shall maintain the operation record for a period of five (5) years. The records shall be available for inspection by the Air Pollution Control Officer upon request.

502 TESTING PROCEDURES: Demonstration of compliance with the emission limits specified in Sections 301 through 303 shall be determined using the test methods specified below averaged over three consecutive test runs.

502.1 OXIDES OF NITROGEN:

a. Emissions of oxides of nitrogen from spark ignited engines shall be determined using ARB Test Method 100.

b. Emissions of oxides of nitrogen from compression ignited engines shall be determined using EPA Test Method 7E.

502.2 CARBON MONOXIDE:

a. Emissions of carbon monoxide from spark ignited engines shall be determined using ARB Test Method 100.

b. Emissions of carbon monoxide from compression ignited engines shall be determined using EPA Test Method 10.

502.3 OXYGEN CONTENT:

a. Oxygen content of exhaust from spark ignited engines shall be determined using ARB Test Method 100..

b. Oxygen content of exhaust from compression ignited engines shall be determined using EPA Test Method 3A.

502.4 NONMETHANE HYDROCARBONS:

a. Nonmethane hydrocarbon emissions shall be determined using EPA Test Method 25 or 25A. If EPA Test Method 25A is used, EPA Test Method 18 shall be used to determine methane content.

RULE 413 - STATIONARY GAS TURBINES
Adopted 04-06-95
(Amended 05-01-97, 03-24-05)

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100 **GENERAL**

- 101 **PURPOSE:** To limit emissions of nitrogen oxides (NO_x) to the atmosphere from the operation of stationary gas turbines.
- 102 **APPLICABILITY:** This rule applies to all stationary gas turbines with ratings equal to or greater than 0.3 megawatt (MW) output, or 3 MMBTU/hr input and operated on gaseous and/or liquid fuel.
- 110 **EXEMPTION - EMERGENCY STANDBY UNITS:** Except for Section 303.3, the provisions of Section 300 shall not apply to the operation of gas turbines used to provide emergency electrical power, emergency water pumping for flood control or fire fighting, emergency potable water pumping, or emergency sewage pumping provided the following requirements are met:
- 110.1 Operation for maintenance purposes shall be limited to 100 hours per year, and such maintenance shall be scheduled in cooperation with the District so as to limit the air quality impact, and
 - 110.2 Operation of the equipment shall be limited to a total of 200 hours per year, and
 - 110.3 Operation of the equipment shall not be for supplying power to a serving utility for distribution on the grid, and
 - 110.4 Operation for other than maintenance purposes shall be limited to actual interruptions of electrical power by the serving utility, emergency water pumping for flood control or fire fighting, emergency potable water pumping, or emergency sewage pumping.
- 111 **EXEMPTION - REMOVAL FROM SERVICE:** The provisions of Section 300 shall not apply to any unit that will be removed from service prior to May 31, 1997 provided that the owner or operator complies with the requirements specified in Section 401.4.
- 112 **EXEMPTION - LABORATORY UNITS:** The provisions of Sections 301 and 302 shall not apply to laboratory gas turbine units used in research and testing for the advancement of gas turbine technology.
- 113 **EXEMPTION - STARTUP/SHUTDOWN PERIOD:** The provisions of Sections 301 and 302 shall not apply to the period of time for the purpose of startup and shutdown of a gas turbine. For a gas turbine with a rated output greater than or equal to 160 MW, which is part of a combined cycle process, the startup period shall not exceed 4 hours following a shutdown of the associated steam turbine of 72 hours or more, and the startup period shall not exceed 3 hours following a shutdown of the associated steam turbine of between 8 hours and 72 hours. In all other cases, the startup period for a gas turbine shall not exceed 1 hour. The shutdown period for a gas turbine shall not exceed 1 hour.
- 114 **EXEMPTION - SHORT-TERM EXCURSIONS:** The averaging time for compliance with the emission limits of Sections 301 and 302 shall be 6 hours for a gas turbine with a rated output greater than 100 MW, which is part of a combined cycle process, during short-term excursions. Each short-term excursion shall not include more than four consecutive 15-minute periods when the 15-minute average NO_x concentration exceeds the limits of Sections 301 and 302. The maximum 6-hour average NO_x concentration for periods that include short-term excursions shall not exceed the limits of Sections 301 and 302. The cumulative total of all 15-minute periods when the average NO_x concentration exceeds the limits of Sections 301 and 302 shall not exceed 10 hours per calendar year per gas turbine. The exemption for short-term excursions shall apply to equipment operation under any of the following qualified conditions:
- 114.1 Combustion turbine load changes at a rate which exceeds the turbine manufacturer's recommended ramp rate, and which are initiated by the control area system operator when the plant is operating under automatic generation control, or are the result of activation of a plant automatic safety or equipment protection system.

- 114.2 Fuel pressure variations, or the activation of a plant automatic safety or equipment protection system, that force the turbine control system to modify the air/fuel mixture for reasons of safety.
- 114.3 Initiation or shutdown of an evaporative cooler, inlet air chiller, or inlet air misting system.
- 114.4 Initiation or shutdown of duct burners.
- 114.5 Initiation or shutdown of power augmentation water or steam injection.
- 114.6 Conditions resulting from technological limitations as identified by the operator and approved in writing by the Air Pollution Control Officer, the California Air Resources Board, and the U.S. Environmental Protection Agency.

200 DEFINITIONS

- 201 **AUTOMATIC GENERATION CONTROL:** The computer link between the control area system operator and an electrical power generating plant, by which the control area system operator can control adjustments, upward or downward, in the electrical power output of the generating plant.
- 202 **BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY (BARCT):** Best Available Retrofit Control Technology, as defined in Section 40406 of the California Health and Safety Code, is "an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of sources." These limits are specified in Section 302.
- 203 **CONTROL AREA SYSTEM OPERATOR:** The organization that regulates electrical power generation within a specified region (the control area) in order to balance electrical loads and maintain planned interchange schedules with other control areas.
- 204 **CONTROL SYSTEM OPERATING PARAMETERS:** The operating parameters that the Air Pollution Control Officer deems necessary to analyze when determining compliance, including, but not limited to, ammonia and exhaust gas flow rates, the exhaust gas temperature, and the water or steam injection rate.
- 205 **EMERGENCY STANDBY UNIT:** Any gas turbine unit which is used exclusively for either emergency purposes or maintenance operations. Maintenance operations shall be limited to one hundred (100) or fewer hours per calendar year with the total hours not to exceed 200 hours. A unit is used for emergency purposes if the unit operates to provide:
 - 205.1 Electrical power during interruptions of electrical power by an unforeseeable event,
 - 205.2 Water pumping for flood control,
 - 205.3 Water pumping for fire control,
 - 205.3 Emergency potable water pumping,
 - 205.4 Emergency sewage water pumping.Electricity generated by the unit cannot be sold.
- 206 **MAINTENANCE OPERATION:** The use of an emergency standby unit and fuel system during testing, repair and routine maintenance to verify its readiness for emergency standby use.
- 207 **PEAK LOAD:** Means 100 percent of the manufacturer's design capacity of the gas turbine.
- 208 **POWER AUGMENTATION:** Any increase in the gas turbine shaft output and/or decrease in gas turbine fuel consumption by the addition of energy recovered from exhaust heat.
- 209 **RAMP RATE:** The rate of change in the electrical power output of a generating unit over time, typically expressed as megawatts per minute.

- 210 **RATING:** The continuous megawatt (MW) rating or mechanical equivalent specified by a manufacturer for a gas turbine without power augmentation.
- 211 **REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT):** Reasonably Available Control Technology means "the lowest emission limitation that a unit is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility," as specified in Section 301.
- 212 **RETROFITTING:** Any physical change to an emissions unit necessary for reducing NO_x emissions to comply with the NO_x emissions limits specified in Sections 301 through 302 of this rule, including, but not limited to, burner replacement, and the addition of emissions control equipment. Changes in the method of operation are not considered to be retrofitting.
- 213 **SELECTIVE CATALYTIC REDUCTION (SCR):** Selective Catalytic Reduction is a post combustion NO_x control technique. A reducing agent (for example: ammonia) is used in a gas-phase reaction with oxides of nitrogen in the presence of a catalyst to form nitrogen and water.
- 214 **SHORT-TERM EXCURSION:** A period of time in which the 15-minute average concentration of NO_x emitted from a stationary gas turbine exceeds the limits of Sections 301 and 302 in response to transient operating conditions as specified in Sections 114.1 through 114.6.
- 215 **STATIONARY GAS TURBINE OR UNIT:** Any gas turbine that remains or will remain at a stationary source for:
- 215.1 more than 12 consecutive months. Any gas turbine that replaces a gas turbine at a stationary source and is intended to perform the same function as the gas turbine being replaced will be included in calculation the consecutive time period. In that case, the cumulative time of both gas turbines, including the time between the removal of the original gas turbine and installation of the replacement gas turbine, would be counted toward the consecutive residence time period; or
- 215.2 less than 12 consecutive months where such a period represents the full length of normal annual source operations, such as a seasonal source.
- 216 **STATIONARY SOURCE:** Any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission.
- 216.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- a. belong to the same industrial grouping, and
 - b. are located on one property or on two or more contiguous properties, and
 - c. are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.
- 216.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- a. they belong to the same two-digit standard industrial classification code, or
 - b. they are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)

300 STANDARDS**301 RACT EMISSION LIMITS:**

- 301.1 **RACT EMISSIONS LIMITS - GASEOUS FUEL FIRING:** The NO_x emissions shall not exceed 42 parts per million by volume on a dry basis, corrected to 15 percent oxygen (O₂) when firing on gaseous fuels.
- 301.2 **RACT EMISSIONS LIMITS - LIQUID FUEL FIRING:** The NO_x emissions from any unit shall not exceed 65 parts per million by volume on a dry basis, corrected to 15 percent oxygen (O₂) when firing on liquid fuels.

302 BARCT EMISSION LIMITS:**302.1 BARCT EMISSIONS LIMITS - GASEOUS FUEL FIRING:**

- a. The NO_x emissions from any unit with a rated unit size output less than 2.9 MW, or any unit greater than or equal to 2.9 MW operating less than 877 hours per year, shall not exceed 42 parts per million by volume on a dry basis, corrected to 15 percent oxygen (O₂) when firing on gaseous fuels.
- b. The NO_x emissions from any unit operated 877 hours or more per calendar year with a rated unit size output greater than or equal to 2.9 MW and less than 10 MW shall not exceed 25 parts per million by volume on a dry basis, corrected to 15 percent oxygen (O₂) when firing on gaseous fuels.
- c. The NO_x emissions from any unit operated 877 hours or more per calendar year with a rated unit size output greater or equal to 10 MW, without SCR installed, shall not exceed 15 parts per million by volume on a dry basis, corrected to 15 percent oxygen (O₂) when firing on gaseous fuels.
- d. The NO_x emissions from any unit operated 877 hours or more per calendar year with a rated unit size output greater or equal to 10 MW, with SCR installed, shall not exceed 9 parts per million by volume on a dry basis, corrected to 15 percent oxygen (O₂) when firing on gaseous fuels.

302.2 BARCT EMISSIONS LIMITS - LIQUID FUEL FIRING:

- a. The NO_x emissions from any unit with a rated unit size output of less than 10 MW or any unit greater than or equal to 2.9 MW operating less than 877 hours per year, shall not exceed 65 parts per million by volume on a dry basis, corrected to 15 percent oxygen (O₂) when firing on liquid fuels.
- b. The NO_x emissions from any unit operated 877 hours or more per calendar year with a rated unit size output greater or equal to 10 MW, without SCR installed, shall not exceed 42 parts per million by volume on a dry basis, corrected to 15 percent oxygen (O₂) when firing on liquid fuels.
- c. The NO_x emissions from any unit operated 877 hours or more per calendar year with a rated unit size output greater or equal to 10 MW, with SCR installed, shall not exceed 25 parts per million by volume on a dry basis, corrected to 15 percent oxygen (O₂) when firing on liquid fuels.

Summary of RACT and BARCT Requirements of Sections 301 and 302

Requirements	Time of Operation (hr/yr)	Unit Size Rating (MW)	NOx Emission Limit (ppmv)	
			Gaseous Fuel	Liquid Fuel
RACT	any	≥0.3	42.0	65.0
BARCT	any	≥0.3 to <2.9	42.0	65.0
	<877	≥2.9	42.0	65.0
	≥877	≥2.9 to <10	25.0	65.0
	≥877	≥10.0 (no SCR)	15.0	42.0
	≥877	≥10.0 (w SCR)	9.0	25.0

303 EQUIPMENT REQUIREMENTS:

- 303.1 The owner or operator of any unit with a rated unit size output of less than 10 MW shall install, operate, and maintain in calibration, equipment approved by the Air Pollution Control Officer that continuously measures and records the following: Control System Operating Parameters, and Elapsed time of operation.
- 303.2 The owner or operator of any unit with a rated unit size output greater or equal to 10 MW and operated for more than 4000 hours in any one calendar year during the three years before April 6, 1995 shall install, operate, and maintain in calibration, equipment approved by the Air Pollution Control Officer that continuously measures and records the following: Control System Operating Parameters, Elapsed time of operation, and continuous exhaust gas NOx concentrations corrected to 15 percent oxygen (O₂) on a dry basis. The NOx continuous emission monitoring (CEM) system shall meet requirements as specified in 40 CFR Part 60 Appendix B, Specification 2 by May 31, 1997.
- 303.3 The owner or operator of any unit subject to any provision of this rule shall install by April 6, 1996, a non-resettable totalizing hour meter on each turbine.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE

- 401.1 **RACT EMISSION LIMITS:** The owner or operator of any unit in existence on April 6, 1995, subject to the emission limits of Sections 301.1 and 301.2, shall comply with these limits effective May 31, 1995 unless retrofitting is required. If retrofitting is required to achieve these limits, the owner or operator shall comply with the increments of progress of Section 401.3 and be in compliance with the BARCT limits by the date specified in Section 401.3. Interim compliance with the limits of Sections 301.1 and 301.2 does not exclude that owner or operator from final compliance with the limits of Sections 302.1 and 302.2 and the increments of progress of Section 401.3.
- 401.2 **BARCT EMISSION LIMITS:** The owner or operator of any unit in existence on April 6, 1995, subject to the emission limits of Sections 302.1 and 302.2, shall comply with the limits effective May 31, 1997 and shall do so in accordance with the increments of progress of Section 401.3.
- 401.3 **INCREMENTS OF PROGRESS:** The owner or operator of any unit subject to the emissions limits of Sections 301 and 302 shall comply with the following increments of progress:
- By May 31, 1995, submit to the Air Pollution Control Officer a compliance plan as specified in Section 402.

- b. By January 31, 1996, submit to the Air Pollution Control Officer a complete application for an authority to construct for the modifications necessary to meet the limits of Sections 302.1 and 302.2.
 - c. By November 30, 1996, begin construction.
 - d. By March 31, 1997, complete construction.
 - e. By May 31, 1997, comply with the emission limits of Sections 302.1 and 302.2. This shall include the submittal to the Air Pollution Control Officer of a complete source test report indicating compliance.
- 401.4 **REMOVAL FROM SERVICE:** The owner or operator of any unit in existence on April 6, 1995 that is expected to be removed from service by May 31, 1997 shall comply with the following:
- a. By May 31, 1995, submit to the Air Pollution Control Officer a notification requesting an exemption from the requirements of Sections 301 and 302.
 - b. By January 31, 1996, submit to the Air Pollution Control Officer a complete application for an Authority to Construct for modification of the Permit to Operate.
 - c. By May 31, 1997, discontinue operation of the unit, disconnect the fuel supply line(s), and notify the Air Pollution Control Officer in writing of the removal from service.
- Operation of any unit beyond May 31, 1997, shall be done in compliance with the applicable NOx limits in Section 302.
- 401.5 **EMERGENCY STANDBY UNITS:** The owner or operator of any unit in existence prior to April 6, 1995 shall, by May 31, 1995, submit to the Air Pollution Control Officer a notification requesting an exemption from the requirements of Section 300.
- 402 **COMPLIANCE PLAN:** The owner or operator of any unit shall submit, for approval to the Air Pollution Control Officer, a Plan for compliance with the provisions of Section 300. The plan shall include:
- 402.1 The following information relative to each unit subject to this rule: the name of the manufacturer, model number, rated shaft power output (MW), hours of operation, fuel type, and fuel consumption rate (MCF/hr or gal/hr).
 - 402.2 A description of the NOx control system proposed for each unit, including type and manufacturer, as well as the measurement and recording equipment required in Section 303. Data on the expected performance of the NOx control system shall also be included.
 - 402.3 A compliance schedule for each unit, including, but not limited to, specific dates for the following events: final engineering, contract award, starting date of construction, completion date of construction, and the date of final compliance.

500 MONITORING AND RECORDS

- 501 **MONITORING:** The owner or operator of any unit subject to the requirements of Sections 301 and 302 shall test the unit annually using the test methods specified in Section 503.
- 502 **RECORDKEEPING:**
- 502.1 The owner or operator of any unit subject to the provisions of this rule shall maintain an operation record containing, at a minimum, the following data:
 - a. Permit number of each gas turbine.
 - b. Manufacturer, model number and rating in megawatts of each gas turbine.
 - c. Actual startup and shutdown time, daily hours of operation, and cumulative hours of operation to date for the calendar year. In addition, for emergency standby units, hours of operation shall be listed separately for emergencies and for maintenance operations.
 - d. Actual daily fuel usage of each unit.
 - e. Date and results of most recent emission test reported as ppmv @ 15% O₂ and pound per unit time.

- f. A summary of any emissions corrective maintenance taken.
- 502.2 The owner or operator of any unit subject to any provisions of this rule shall maintain the operation records for two years. The records shall be available for inspection by the Air Pollution Control Officer upon request.
- 502.3 The owner or operator of any unit which is exempt per Section 110 shall notify the Air Pollution Control Officer within seven days if the hour-per-year limit, as specified in Section 110 is exceeded. If the hour-per-year limit is exceeded, the exemption will be permanently withdrawn. Within 30 days of the exceedence, the owner or operator shall submit a plan to show compliance with the rule within 2 years of the exceedence. A public service unit operating during a state of emergency shall be excluded from the hour-per-year limit, when such emergency is declared by proclamation of the Governor and when the unit is located in the specific geographic location identified in the proclamation.
- 502.4 The owner or operator of any unit for which the startup period exemption is extended beyond 1 hour, pursuant to Section 113, shall record, for each gas turbine startup, the length of time that the associated steam turbine has been shut down prior to startup.
- 502.5 The owner or operator of any unit to which the exemption for short-term excursions applies, pursuant to Section 114, shall record the following information:
- The number of consecutive 15-minute periods when the 15-minute average NO_x concentration exceeded the limits of Sections 301 and 302 during each short-term excursion.
 - The qualified condition(s) under which each short-term excursion occurred, pursuant to Section 114.
 - The maximum 6-hour average NO_x concentration during the period that includes each short-term excursion.
 - The cumulative total, per calendar year per gas turbine, of all 15-minute periods when the 15-minute average NO_x concentration exceeded the limits of Sections 301 and 302.
- 503 **TEST METHODS:** Compliance with the requirements of this rule shall be determined using the following test methods:
- 503.1 **Oxides of Nitrogen:** Emissions of oxides of nitrogen shall be determined by using EPA Method 20. The average of three runs for 15 minutes shall be used to determine compliance.
- 503.2 **Oxygen (O₂) Content:** Oxygen content shall be determined by using ARB Method 100 or EPA Method 3A.

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**RULE 414, WATER HEATERS, BOILERS AND PROCESS HEATERS RATED LESS THAN 1,000,000
BTU PER HOUR
Adopted 08-01-96
(Amended 03-25-10)**

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100 GENERAL

- 101 **PURPOSE:** To limit the emission of nitrogen oxides (NO_x) from water heaters, boilers and process heaters.
- 102 **APPLICABILITY:** This rule shall apply to any person who manufactures, distributes, offers for sale, sells, or installs any type of water heater (such as tank or tankless/instantaneous), boiler or process heater, with a rated heat input capacity less than 1,000,000 British thermal units per hour (Btu/hr), fired with gaseous or nongaseous fuels, for use in this District.
- 110 **EXEMPTION, WATER HEATERS IN RECREATIONAL VEHICLES:** This rule shall not apply to water heaters used in recreational vehicles.
- 111 **EXEMPTION, POOL/SPA HEATERS:** This rule shall not apply to pool/spa heaters with a heat input rating of less than 75,000 Btu/hr.
- 112 **EXEMPTION, WATER HEATERS, BOILERS AND PROCESS HEATERS FIRED WITH LIQUEFIED PETROLEUM GAS:** This rule shall not apply to water heaters, boilers and process heaters fired with liquefied petroleum gas.

200 DEFINITIONS

- 201 **BOILER:** Any external combustion equipment fired with any fuel used to produce hot water or steam, excluding waste heat recovery boilers.
- 202 **BTU:** British thermal unit or units.
- 203 **HEAT INPUT:** The heat of combustion released by fuels burned in a unit based on the higher heating value of the fuel. This does not include the enthalpy of incoming combustion air.
- 204 **HEAT OUTPUT:** The product H_o as defined in Section 9.3 of the South Coast AQMD Protocol, as referenced in Section 501 of this rule.
- 205 **LIQUEFIED PETROLEUM GAS:** A compressed gas composed of one or more of the following flammable hydrocarbons: propane, n-butane, isobutane, propylene, and butenes.
- 206 **MOBILE HOME WATER HEATER:** A water heater manufactured exclusively for mobile home use.
- 207 **NATURAL GAS:** A mixture of gaseous hydrocarbons containing at least 80 percent methane by volume as determined according to American Standard Test Method (ASTM) D1945-64.
- 208 **POOL/SPA HEATER:** A device in which water is heated when pool or spa water circulates through a heat exchanger.
- 209 **PROCESS HEATER:** Any unit fired with any fuel which transfers heat from combustion gases to water or process streams. Process heater does not include any dryer in which the material being dried is in direct contact with the products of combustion, cement or lime kilns, glass melting furnaces or smelters.
- 210 **RATED HEAT INPUT CAPACITY:** The heat input capacity specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the heat input capacity specified on the nameplate, the new maximum heat input shall be considered as the rated heat input capacity.
- 211 **RECREATIONAL VEHICLE:** A motor home, travel trailer, truck camper, or camping trailer, with or without motive power, designed for human habitation for recreational, emergency, or

other occupancy, as defined pursuant to Section 18010 of the California Health and Safety Code.

- 212 **WASTE HEAT RECOVERY BOILER:** A device that recovers normally unused energy and converts it to usable heat. Devices incorporating duct or supplemental burners that are designed to supply 50% or more of the total rated heat input capacity of the device are not considered waste heat recovery boilers, but are considered boilers. Waste heat recovery boilers are also referred to as heat recovery steam generators.
- 213 **WATER HEATER:** A closed vessel in which water is heated and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210 °F (99 °C).

300 STANDARDS

- 301 **EMISSION LIMITS:** A person shall only distribute, offer for sale, sell, or install within the Sacramento Metropolitan Air Quality Management District a water heater, boiler or process heater with certified NO_x and CO emissions less than or equal to the following limits:

Heat Input Range and Type	NO _x Limit Nanograms per Joule of Heat Output (ppmv @ 3% O ₂)*			CO Limit ppmv @ 3% O ₂
	Effective 3/1/1997	Effective 1/1/2011	Effective 1/1/2013	Effective 1/1/2011
<u>< 75,000 Btu/hr</u> Mobile Home All others	50 40	40 (55) 10 (15)		No Limit No Limit
<u>75,000 to < 400,000 Btu/hr</u> Pool/Spa All others	No Limit No Limit	40 (55) 40 (55)	14 (20)	No Limit No Limit
<u>400,000 to < 1million Btu/hr</u> All Types	No Limit	14 (20)		400

* Where limits are shown in units of both nanograms per joule of heat output and ppmv at 3% oxygen, compliance can be demonstrated using either limit.

- 302 **SELL-THROUGH OF WATER HEATERS, BOILERS AND PROCESS HEATERS:** An applicable water heater, boiler or process heater manufactured prior to the January 1, 2011 or the January 1, 2013 effective date specified for that unit in Section 301 may be distributed, offered for sale, or sold for up to 6 months after the specified effective date. In addition, a water heater, boiler or process heater manufactured before the effective date specified for that unit in Section 301 may be installed at any time, after the specified effective date, so long as it complied with the standards in Section 301 and 302 in effect at the time the unit was sold to the owner/operator of the water heater, boiler or process heater.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **CERTIFICATION REPORT:**
- 401.1 A manufacturer of any water heater, boiler, or process heater subject to Section 300 shall submit to the Air Pollution Control Officer (APCO) a compliance report that demonstrates each model manufactured by it and subject to this rule is in compliance with the provisions of Section 300 at least 30 days prior to being sold or distributed for sale within the District. Regardless of whether a permit is required, the manufacturer submitting a certification report must pay the fee in Rule 301, PERMIT FEES – STATIONARY SOURCE, Section 311. The compliance report shall include the following information:
- Name and address of manufacturer;

- b. Brand name and model;
 - c. Model number as it appears on the rating plate;
 - d. Fuel type unit is fired with;
 - e. Description of each water heater model being certified;
 - f. Heat input rating;
 - g. All compliance test procedures and results, as performed by an independent testing laboratory, in accordance with Section 501;
 - h. All calculations for determining compliance; and
 - i. A signed and dated statement attesting to the accuracy of all statements and information in the compliance report.
- 401.2 In lieu of Sections 401.1(g) and 401.1(h), a manufacturer may submit to the District, at least 30 days prior to a model being sold or distributed for sale within the District, an approved South Coast Air Quality Management District (SCAQMD) certification pursuant to SCAQMD Rules 1121 or 1146.2.

402 **MANUFACTURERS' LABELING REQUIREMENT:** A manufacturer shall display the model number and the manufactured year of the water heater, boiler or process heater complying with Section 300 on the shipping carton and on the rating plate of each unit. The manufacturer shall also display the certification status on the shipping carton and on the water heater, boiler or process heater.

500 MONITORING AND RECORDKEEPING

501 TESTING PROCEDURE:

- 501.1 Any natural gas-fired water heater, boiler or process heater to which this rule applies shall be tested in accordance with the South Coast Air Quality Management District Protocol: *Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers*, as amended January 1998.
- 501.2 Any water heater, boiler or process heater fired with a fuel other than natural gas, to which this rule applies, shall be tested in accordance with the test methods below. All emission determinations shall be made while the unit is operating according to the manufacturer's recommendations. Tests shall be conducted while the unit is operating at a firing rate that is as close as physically possible to the unit's recommended heat input capacity. Tests shall consist of three 40-minute sampling periods. Results shall be averaged over the three test periods. Test reports shall include the operational characteristics of all flue-gas NOx reduction equipment.
- a. Oxides of Nitrogen – ARB Method 100 or EPA Method 7E.
 - b. Carbon Monoxide – ARB Method 100 or EPA Method 10.
 - c. Stack Gas Oxygen – ARB Method 100 or EPA Method 3A.
 - d. Carbon Dioxide – ARB Method 100 or EPA Method 3A.

502 **DURATION OF RECORDS:** A manufacturer shall keep test reports and certification records for as long as the water heater, boiler or process heater model is offered for sale or sold in the District, or for three calendar years after manufacture, whichever is longer. These records shall be made available to the Air Pollution Control Officer upon request.

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RULE 417 – WOOD BURNING APPLIANCES
Adopted 10-26-06**INDEX**

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100 GENERAL

- 101 **PURPOSE:** To limit emissions of particulate matter to the atmosphere from the operation of wood burning appliances.
- 102 **APPLICABILITY:** This rule applies to:
- 102.1 Any person who manufactures, sells, offers for sale, supplies, transfers, or operates a permanently installed, indoor or outdoor, wood burning appliance.
 - 102.2 Any person who sells, offers for sale, or supplies wood intended for burning in a wood burning appliance.
 - 102.3 Any person who installs a wood burning appliance in any residential or commercial, single or multi-building unit.
- 103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and affect to the extent allowed by law.
- 110 **EXEMPTION – GASEOUS FUEL:** The provisions of this rule shall not apply to appliances that are fired exclusively with a gaseous fuel and certified to meet any of the following ANSI standards:
- 110.1 ANSI Z21.11.1 – Gas-Fired Room Heaters, Vented
 - 110.2 ANSI Z21.11.2 – Gas-Fired Room Heaters, Unvented
 - 110.3 ANSI Z21.50 – Vented Gas Fireplaces
 - 110.4 ANSI Z21.86 – Vented Gas-Fired Space Heating Appliances
 - 110.5 ANSI Z21.88 – Vented Gas Fireplace Heaters
- 111 **EXEMPTION – COOKSTOVES:** The provisions of this rule shall not apply to cookstoves.
- 112 **EXEMPTION – COMMERCIAL FIRE-STARTING PRODUCTS:** The provisions of Section 304 shall not apply to commercial products manufactured expressly for starting a fire in a wood fired appliance.

200 DEFINITIONS

- 201 **BUILDER:** Any individual or company that constructs and/or sells any residential or commercial, single or multi-building unit with a wood burning appliance.
- 202 **COATING:** A material which is applied to a surface and which forms a film in order to beautify and/or protect such surface.
- 203 **COOKSTOVE:** Any wood fired appliance used primarily for cooking food as described in Title 40 of the Code of Federal Regulations (CFR) Section 60.531.
- 204 **FIREPLACE:** Any permanently installed masonry or factory built device designed to operate with an air-to-fuel ratio greater than or equal to 35-to-1, a burn rate over 11 pounds per hour, or a weight over 1760 pounds.
- 205 **GARBAGE:** Any solid, semisolid, or liquid wastes generated from residential, commercial, and industrial sources, including trash, refuse, rubbish, industrial wastes, asphaltic products, manure, vegetable or animal solid or semisolid wastes, and other discarded solid or semisolid wastes.
- 206 **MANUFACTURER:** Any person who constructs or imports a wood burning appliance.
- 207 **MASONRY HEATER:** Any permanently installed device that meets the definition of a masonry heater in ASTM E 1602-03.

- 208 **PAINTS:** Any exterior and interior house and trim paints, enamels, varnishes, lacquers, stains, primers, sealers, undercoaters, roof coatings, wood preservatives, shellacs, and other paints or paint-like products.
- 209 **PAINT SOLVENTS:** Any organic solvents sold or used to thin paints or to clean up painting equipment.
- 210 **PELLET-FUELED WOOD BURNING HEATER:** Any wood burning heater which is operated on pellet-fuel, and is either U.S. EPA Phase II certified, or exempted under U.S. EPA requirements set forth in Title 40 CFR, Part 60, Subpart AAA.
- 211 **PERMANENTLY INOPERABLE:** Modified in such a way that a device can no longer operate as a wood burning appliance.
- 212 **PERMANENTLY INSTALLED:** Built or installed in such a manner that the device is attached to the ground, floor, or wall, and is not readily movable. A free standing stove that is attached to an exhaust system that is built into or through a wall is considered permanently installed.
- 213 **RETAILER:** Any person engaged in the sale of wood burning appliances directly to the consumer.
- 214 **SEASONED WOOD:** Wood of any species that has been sufficiently dried so as to contain 20 percent or less moisture by weight.
- 215 **SOLID FUEL:** Any wood, non-gaseous, or non-liquid fuel.
- 216 **SOLVENT:** Any liquid containing a volatile organic compound or combination of volatile organic compounds, which is used to perform cleaning or thinning of paints or coatings.
- 217 **TREATED WOOD:** Wood of any species that has been chemically impregnated, painted, coated, or similarly modified to improve resistance to insects or weathering.
- 218 **U.S. EPA:** The United States Environmental Protection Agency.
- 219 **U.S. EPA PHASE II CERTIFIED:** Any appliance certified by the U.S. EPA to meet the performance and emission standards set forth in Title 40 CFR, Part 60, Subpart AAA.
- 220 **VOLATILE ORGANIC COMPOUND:** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101- GENERAL PROVISIONS AND DEFINITIONS.
- 221 **WASTE PETROLEUM PRODUCT:** Any petroleum product, other than gaseous fuels, that:
216.1 has been refined from crude oil, and
216.2 has been used, and
216.3 has been contaminated with physical or chemical impurities as a result of use.
- 222 **WOOD BURNING APPLIANCE:** Any fireplace, wood burning heater, or pellet-fueled wood heater, or any similar enclosed, permanently installed, indoor or outdoor device burning any solid fuel used for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour (Btu/hr).
- 223 **WOOD BURNING HEATER:** An enclosed, wood burning appliance capable of, and intended for space heating as described in Title 40 CFR Section 60.531 (i.e., wood stove or fireplace insert).

300 STANDARDS**301 SALE AND INSTALLATION OF WOOD BURNING APPLIANCES:**

- 301.1 Effective October 26, 2007, no person shall sell, offer for sale, supply, install, or transfer a new wood burning appliance unless it is one of the following:
- a. A U.S. EPA Phase II Certified wood burning heater,
 - b. A pellet-fueled wood burning heater,
 - c. A masonry heater, or
 - d. An appliance or fireplace determined to meet the U.S. EPA particulate matter emission standard set forth in Title 40 CFR, Part 60, Subpart AAA, and approved in writing by the Air Pollution Control Officer.
- 301.2 No person shall advertise, sell, offer for sale, supply, install, or transfer a used wood burning appliance unless it meets the requirements of section 301.1, or has been rendered permanently inoperable.
- 301.3 Effective April 26, 2007,
- a. Any person selling, offering for sale, or installing new wood burning appliances shall distribute public awareness information with each wood burning appliance, in the form of pamphlets, brochures, or fact sheets on the following topics:
 1. Proper installation, operation, and maintenance of the wood burning appliance,
 2. Proper fuel selection and use,
 3. Health effects from wood smoke, and
 4. Weatherization methods for the home,
 - b. Public information shall be reviewed and approved by the Air Pollution Control Officer.

302 **OPERATION OF WOOD BURNING APPLIANCES:** All wood burning appliances shall be installed and operated according to the manufacturer's specifications. Any U.S. EPA Phase II certified wood burning appliance which has been altered, installed, or disassembled in any way not specified by the manufacturer, or is operated in any manner that would result in emissions exceeding the standards set forth in Title 40 CFR, Part 60, Subpart AAA, shall not be considered a U.S. EPA Phase II certified appliance.

303 ADVERTISING REQUIREMENTS FOR SALE OF WOOD:

- 303.1 No person shall sell, offer for sale, or supply any wood which orally, or in writing, is advertised, described, or in any way represented to be "seasoned" or "dry" wood unless the wood has a moisture content of 20 percent or less by weight.
- 303.2 The Air Pollution Control Officer may delegate to another person or agency the authority to test wood for moisture content and determine compliance with section 303.1.

304 **PROHIBITED FUEL TYPES:** No person shall cause or allow any of the following materials to be burned in a wood burning appliance:

- 304.1 Garbage,
- 304.2 Treated wood,
- 304.3 Plastic products,
- 304.4 Rubber products,
- 304.5 Waste petroleum products,
- 304.6 Paints and other coatings,
- 304.7 Solvents,
- 304.8 Coal,
- 304.9 Glossy or colored paper,
- 304.10 Particle board,
- 304.11 Any other material not intended by a manufacturer for use as fuel in a solid fuel burning device.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **COMPLIANCE REPORT:** Upon request of the Air Pollution Control Officer, a manufacturer shall demonstrate that each wood burning appliance subject to the requirements of Section 301 meets the standards set forth in Title 40 CFR, Part 60, Subpart AAA.

500 MONITORING AND RECORDS

- 501 **TEST METHODS:** Compliance with the requirements of this rule shall be determined using the following test methods:
- 501.1 **Air-to-Fuel Ratio:** Air-to-fuel ratio shall be determined by EPA Test Method 28A.
 - 501.2 **Moisture Content:** Moisture content of wood shall be determined by ASTM Test Method D 4442-92.

RULE 420

SULFUR CONTENT OF FUELS

Adopted 8-3-77

(Amended 8-13-81)

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500 MONITORING AND RECORDS (NOT INCLUDED)

100 GENERAL

101 PURPOSE: To limit the emission of compounds of sulfur from combustion of fuels.

110 EXEMPTIONS: The provisions of this rule shall not apply to:

110.1 The burning of sulfur, hydrogen sulfide, acid sludge or other sulfur compounds in the manufacturing of sulfur or other sulfur compounds;

110.2 The incinerating of waste gases provided that the gross heating value of such gases is less than 2.14 kilogram- calories per cubic meter (300 British Thermal Units per cubic foot) at standard conditions and the fuel used to incinerate such waste gases does not contain sulfur or sulfur compounds in excess of the amount specified in this rule;

110.3 The use of solid fuels in any metallurgical process;

110.4 The use of fuels where the gaseous products of combustion are used as raw materials for other processes;

110.5 The use of liquid, or solid fuel, to propel or test any vehicle, aircraft, missile, locomotive, boat or ship;

110.6 The use of fuel with higher sulfur content where process conditions or control equipment remove sulfur compounds from the stack gases to the extent that the emission of sulfur compounds into the atmosphere is no greater than that which could be emitted by using a fuel which complies with the provisions of this rule;

110.7 The use of liquid fuel whenever the supply of gaseous fuel, the burning of which is permitted by this rule, is not physically available to the user due to accident, act of God, act of war, act of the public enemy, or other conditions of emergency.

110.8 The burning and incineration of sewage treatment plant waste gases provided that the fuel used to incinerate such gases does not contain sulfur or sulfur compounds in excess of the amounts specified in Section 301.

200 DEFINITIONS (NOT INCLUDED)

300 STANDARDS

301 SULFUR CONTENT OF FUELS: A person shall not burn any gaseous fuel containing sulfur compounds in excess of 1.14 grams per cubic meter (50 grains per 100 cubic feet) of gaseous fuel, calculated as hydrogen sulfide at standard conditions, or any liquid fuel or solid fuel having a sulfur content in excess of 0.5% by weight.

400 ADMINISTRATIVE REQUIREMENTS (NOT INCLUDED)

500 MONITORING AND RECORDS (NOT INCLUDED)

**RULE 421 – MANDATORY EPISODIC CURTAILMENT OF WOOD AND OTHER
SOLID FUEL BURNING**
Adopted 10-25-07
(Amended 9-24-09)

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500 MONITORING AND RECORDS (NOT INCLUDED)

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100 GENERAL

- 101 **PURPOSE:** To limit emissions of particulate matter to the atmosphere from fires or the operation of wood burning devices.
- 102 **APPLICABILITY:** This rule applies to any person who operates a wood burning device or fire.
- 103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and affect to the extent allowed by law.
- 110 **EXEMPTION – GASEOUS FUEL:** The provisions of this rule shall not apply to devices that operate exclusively with a gaseous fuel.
- 111 **EXEMPTION – COOKSTOVES:** The provisions of this rule shall not apply to cookstoves.
- 112 **EXEMPTION – SOLE SOURCE OF HEAT:** The provisions of this rule shall not apply to wood burning devices that are the sole source of heat in a residence.
- 113 **EXEMPTION – RELIGIOUS ACTIVITY:** The provisions of this rule shall not apply to fires conducted as part of a religious ceremony.
- 114 **EXEMPTION – HARDSHIP:** The provisions of Section 301 shall not apply to any person who has an approved Hardship Waiver pursuant to Section 403.
- 115 **EXEMPTION – CERTIFIED WOOD HEATERS AND PELLET STOVES:** The provisions of Section 301 shall not apply to U.S. EPA Phase II Certified wood burning heaters and pellet-fueled wood burning heaters provided:
115.1 the devices do not emit visible smoke; and
115.2 a Stage 1 Mandatory Curtailment is in effect.
- 116 **EXEMPTION – CERTIFIED WOOD HEATERS AND PELLET STOVES:** The provisions of Section 302 shall not apply to U.S. EPA Phase II Certified wood burning heaters and pellet-fueled wood burning heaters provided the devices do not emit visible smoke.

200 DEFINITIONS

- 201 **COOKSTOVE:** Any wood fired appliance used primarily for cooking food as described in Title 40 of the Code of Federal Regulations (CFR) Section 60.531.
- 202 **FIRE:** A solid fuel fire not in a wood burning device. Examples include, but are not limited to, fire pits and bonfires.
- 203 **FIREPLACE:** Any permanently installed masonry or factory built device designed to operate with solid fuel.
- 204 **PELLET-FUELED WOOD BURNING HEATER:** Any wood burning heater which is operated on compressed pellets of wood or other biomass material.
- 205 **SEASON:** The consecutive entire months of November, December, January, and February.
- 206 **SOLE SOURCE:** The only permanent source of heat that is capable of meeting the space heating demands of a residence.
- 207 **SOLID FUEL:** Any wood, non-gaseous, or non-liquid fuel.

- 208 **U.S. EPA:** The United States Environmental Protection Agency.
- 209 **U.S. EPA PHASE II CERTIFIED:** Any appliance certified by the U.S. EPA to meet the performance and emission standards set forth in Title 40 CFR, Part 60, Subpart AAA.
- 210 **WOOD BURNING DEVICE:** Any fireplace, wood burning heater, pellet-fueled wood burning heater, or any similar indoor or outdoor device burning any solid fuel used for aesthetic or space-heating purposes.
- 211 **WOOD BURNING HEATER:** An enclosed, wood burning appliance capable of, and intended for space heating as described in Title 40 CFR Section 60.531 (e.g., wood stove or fireplace insert).

300 STANDARDS

- 301 **MANDATORY CURTAILMENT:** The requirements of this section shall be in effect during the burning season.
- 301.1 No person may have a fire or operate a wood burning device when a Mandatory Curtailment is in effect.
- 301.2 The Air Pollution Control Officer will declare a Stage 1 Mandatory Curtailment whenever he or she determines that the 24-hour average PM_{2.5} concentration may exceed 31 µg/m³ but is not likely to exceed 35 µg/m³.
- 301.3 The Air Pollution Control Officer will declare a Stage 2 Mandatory Curtailment whenever he or she determines that the 24-hour average PM_{2.5} concentration may exceed 35 µg/m³.
- 302 **VOLUNTARY CURTAILMENT:** The requirements of this section shall be in effect during the burning season. The Air Pollution Control Officer will declare a Voluntary Curtailment whenever he or she determines that the 24-hour average PM_{2.5} concentration may exceed 25 µg/m³ but is not likely to exceed 31 µg/m³.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **NOTIFICATION OF MANDATORY CURTAILMENT:** The Air Pollution Control Officer will provide public notice of a Mandatory Curtailment by all of the following methods:
- 401.1 A recorded telephone message for which the telephone number is published in the telephone directory or newspapers of general circulation within Sacramento County.
- 401.2 Messages posted on the District Web site, www.AirQuality.org, and the Spare The Air Web site, www.SpareTheAir.com.
- 401.3 Electronic mail messages to persons or entities that have requested electronic notice and provided accurate address information. The District is not responsible for the failure to receive notices, and failure to receive does not excuse violations of Section 301.1.
- 401.4 Notifying radio and television stations operating in Sacramento County and newspapers of general circulation within Sacramento County.
- 401.5 Any other such methods that the Air Pollution Control Officer determines are appropriate.
- 402 **PENALTIES:** Any person who violates Section 301.1 of this rule is subject to the following penalties:
- 402.1 For first-time violations, the person shall pay an administrative civil penalty of \$50 or shall complete and pass a wood smoke awareness course that has been approved by the Air Pollution Control Officer.
- 402.2 For subsequent violations, the penalty will be determined in accordance with the District's Mutual Settlement Program.

- 402.3 The administrative civil penalty specified in Section 402.1 may be adjusted on an annual basis. Any adjustment must be proposed and approved through the annual budget process. If the Board of Directors approves a change in the penalty with the final budget, the Air Pollution Control Officer may adjust the penalty by up to the maximum rate approved by the Board.
- 403 **HARDSHIP WAIVER:** The Air Pollution Control Officer may issue a waiver from this rule if there are compelling economic reasons to do so and the waiver will not have adverse impacts. A written application must be submitted by anyone requesting a waiver.
- 403.1 **Application Information:** The application must state the compelling reason for the waiver and must include the following information:
- a. Address of the household where the wood burning device is located;
 - b. Total gross monthly income for all persons living in the household;
 - c. Total number of persons living in the household;
 - d. Type of dwelling and age;
 - e. Types of fuel and the devices used for heating;
 - f. Copy of utility bill(s) paid;
 - g. Identification of all wood burning devices being used;
 - h. Estimate of the amount of wood or other solid fuel that will be burned on a Mandatory No Burn day;
 - i. Certification by the applicant that the information contained in the application is accurate to the best of their knowledge under penalty of perjury under the laws of the State of California; and
 - j. Other information requested by the Air Pollution Control Officer.
- 403.2 **Waiver Approval Process:** Before granting the waiver, the Air Pollution Control Officer will consider the above information and any other information that he or she deems appropriate.
- a. The Air Pollution Control Officer will grant or deny the waiver, in writing, within 10 working days of the receipt of the application. If the Air Pollution Control Officer does not respond, the request is deemed denied. The Air Pollution Control Officer's decision is final.
 - b. The waiver is only valid for one season. A person must apply for a waiver each season.
 - c. The Air Pollution Control Officer may rescind the granting of a waiver at any time if an adverse impact is identified, or if information relied upon to grant the waiver is incorrect.

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4-19-84

RULE 441 ORGANIC SOLVENTS

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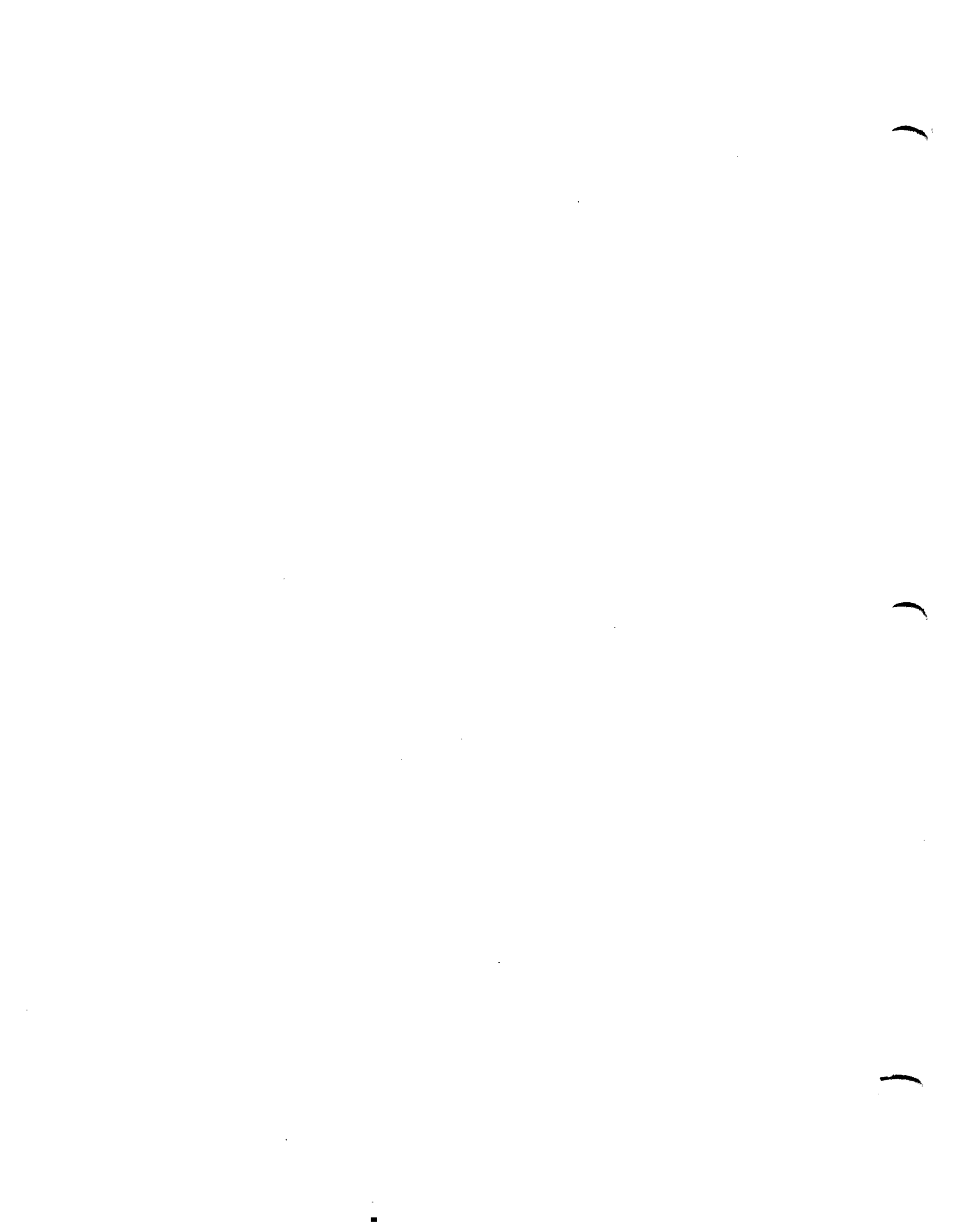
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100 GENERAL

- 101 **PURPOSE:** To limit emissions of organic solvents into the atmosphere that may result from the use of organic solvents.
- 102 **EXEMPTIONS:** The provisions of this rule shall not apply to:
- 102.1 The manufacture of organic solvents, or the transport or storage of organic solvents or materials containing organic solvents.
 - 102.2 The spraying or other employment of insecticides, pesticides, or herbicides.
 - 102.3 The employment, application, evaporation or drying of saturated halogenated hydrocarbons or perchloroethylene.
 - 102.4 The use of any material, in any article, machine, equipment or other contrivance described in Sections 301, 302, 303, or 305 of this rule if:
 - a. The volatile content of such material consists only of water and organic solvents, and
 - b. The organic solvents comprise not more than 20 percent by volume of said volatile content, and
 - c. The volatile content is not photochemically reactive as defined as in section 203 of this rule.
 - d. The organic solvent or any material containing organic solvent does not come into contact with flame.
 - 102.5 The use of any material, in any article, machine, equipment or other contrivance described in Sections 301, 302, 303 or 305 of this rule.
 - a. The organic solvent content of such material does not exceed 20 percent by volume of said material, and
 - b. The volatile content is not photochemically reactive as defined in section 203 of this rule, and
 - c. The organic solvent or any material containing organic solvent does not come into contact with flame.
 - 102.6 The use of equipment for which other requirements are specified by Rules 446, 447, 448 or 449 or which are exempt from air pollution control requirements by said rules.

200 DEFINITIONS

- 201 **ORGANIC MATERIALS:** Chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates and ammonium carbonate.
- 202 **ORGANIC SOLVENTS:** Diluents and thinners and are defined as organic materials which are liquids at standard conditions and which are used as dissolvers, viscosity reducers or cleaning agents, except that such materials which exhibit a boiling point higher than 105 degrees Celsius (221 degrees Fahrenheit) at 0.5 millimeters mercury absolute pressure or having an equivalent vapor pressure shall not be considered to be solvents unless exposed to temperatures exceeding 105 degrees Celsius (221 degrees Fahrenheit).
- 203 **PHOTOCHEMICALLY REACTIVE SOLVENTS:** Any solvent with an aggregate of more than 20 percent of its total volume composed of chemical compounds classified below or which exceed any of the following

individual percentage composition limitations, referred to the total volume of solvent:

- a. A combination of hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones having an olefinic or cyclo-olefinic type of unsaturation: 5 percent.
- b. A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: .8 percent.
- c. A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

204 **SOLVENT CLASSIFICATION:** Whenever any organic solvent or any constituent of any organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds listed in section 203, it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of solvents.

300 STANDARDS

301 **ORGANIC MATERIALS:** A person shall not discharge into the atmosphere more than 6.8 kilograms (15 pounds) of organic materials in any one day, nor more than 1.4 kilograms (3.1 pounds) in any one hour, from any article, machine, equipment or other contrivance, in which any organic solvent or any material containing organic solvent comes into contact with flame or is baked, heat-cured or heat-polymerized, in the presence of oxygen, unless said discharge has been reduced by at least 85 percent. Those portions of any series of articles, machines, equipment or other contrivances designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this section shall be collectively subject to compliance with this section.

302 **PHOTOCHEMICALLY REACTIVE SOLVENTS:** A person shall not discharge into the atmosphere more than 18 kilograms (39.7 pounds) of organic materials in any one day, nor more than 3.6 kilograms (7.9 pounds) in any one hour, from any article, machine, equipment or other contrivance used under conditions other than described in Section 301 for employing, or applying, any photochemically reactive solvent, as defined in Section 203, or material containing such photochemically reactive solvent, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this section shall be included in determining compliance with this section. Emissions resulting from baking, heat-curing, or heat-polymerizing as described in Section 301 shall be excluded from determination of compliance with this section. Those portions of any series of articles, machines, equipment or other contrivances designed for processing for a continuous web, strip, or wire which emit organic materials and using operations described in this section shall be collectively subject to compliance with this section.

- 303 **NON-PHOTOCHEMICALLY REACTIVE SOLVENTS:** A person shall not discharge into the atmosphere more than 1350 kilograms (2,970 pounds) of organic materials in any one day, nor more than 200 kilograms (441 pounds) in any one hour, from any article, machine, equipment or other contrivance in which any non-photochemically reactive organic solvent or any material containing such solvent is employed or applied, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this section shall be included in determining compliance with this section. Emissions resulting from baking, heat-curing, or heat-polymerizing as described in Section 301 shall be excluded from determination of compliance with this section. Those portions of any series of articles, machines, equipment, or other contrivance designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this section shall be collectively subject to compliance with this section.
- 304 **SOLVENT DISPOSAL:** A person shall not, during any one day, dispose of a total of more than 5 liters (1.3 gallons) of any photochemically reactive solvent, as defined in section 203 or of any material containing more than 5 liters (1.3 gallons) of any such photochemically reactive solvent by any means which will permit the evaporation of such solvent into the atmosphere.
- 305 **CLEANUP:** Emissions of organic materials into the atmosphere from cleanup with cleanup with photochemically reactive solvent as defined in Section 203 of any article, machine, equipment or other contrivance described in Sections 301, 302 or 303 shall be included with the other emissions of organic materials from that article, machine, equipment or other contrivance for determining compliance with this rule.
- 306 **OTHER LIMITATIONS:** In addition to other restrictions contained in these rules and regulations:
- 306.1 A person shall not use, in any dry cleaning operation, organic solvents containing 4 percent or more by volume of any photochemically reactive organic material as defined in Section 203 unless the emissions of the discharged organics are reduced by 90 percent or more by use of any of the methods described in Section 307.
- 306.2 A person shall not discharge into the atmosphere any organic materials from surface degreasing operations unless they are either reduced by at least 85 percent, or unless such materials are not photochemically reactive as defined in Section 203.
- 306.3 A person shall not manufacture, for use within Sacramento County, nor use any photochemically reactive solvent as defined in Section 203 for the purpose of thinning or diluting any metal surface coating.
- 307 **REQUIRED REDUCTIONS:** Emissions of organic materials into the atmosphere required to be controlled by Sections 301, 302 or 303

shall be reduced by:

- 307.1 Incineration, provided that 90 percent or more of the carbon in the organic material being incinerated is oxidized to carbon dioxide, or
- 307.2 Absorption, or
- 307.3 Processing in a manner determined by the Air Pollution Control Officer to be not less effective than 307.1 or 307.2 above.

400 ADMINISTRATIVE REQUIREMENTS

401 **EQUIPMENT MAINTENANCE:** A person incinerating, adsorbing, or otherwise processing organic material pursuant to this rule shall provide, properly install, and maintain in calibration, in good working order and in operation, devices as specified in the Authority to Construct or the Permit to Operate, or as specified by the Air Pollution Control Officer, for indicating temperatures, pressures, rates of flow or other operating conditions necessary to determine the degree of effectiveness of air pollution control.

500 MONITORING AND RECORDS

501 **COMPOSITION AND CONSUMPTION RECORDS:** Any person using organic solvents or any materials containing organic solvents shall supply the Air Pollution Control Officer, upon request, and in the manner and form prescribed by him, written evidence of the chemical composition, physical properties and amount consumed for each organic solvent used.

RULE 442 ARCHITECTURAL COATINGS

Adopted 12-6-78

(Amended 8-31-82, 11-29-83, 4-28-87, 10-2-90, 11-16-93, 9-5-96, 5-24-01, 9-24-15)

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100 GENERAL

- 101 **PURPOSE:** To limit the emissions of volatile organic compounds from the use of architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the District.
- 102 **APPLICABILITY:** Except as provided in Section 110, this rule is applicable to any person who:
- 102.1 Supplies, sells, or offers for sale, any architectural coating for use within the District; or
 - 102.2 Manufactures, blends, or repackages any architectural coating for use within the District; or
 - 102.3 Applies or solicits the application of any architectural coating within the District;
- 103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and affect, to the extent allowed by law.
- 110 **EXEMPTIONS:** This rule does not apply to:
- 110.1 Any architectural coating that is supplied, sold, offered for sale, or manufactured for use outside of the District or for shipment to other manufacturers for reformulation or repackaging;
 - 110.2 Any aerosol coating product; or
 - 110.3 With the exception of Section 501, any architectural coating that is sold in a container with a volume of one liter (1.057 quart) or less provided the following requirements are met:
 - a. The container is not bundled together to be sold as a unit that exceeds one liter (1.057 quarts), excluding containers packed together for shipping to a retail outlet.
 - b. The label or any other product literature does not suggest combining multiple containers so that the combination exceeds one liter (1.057 quarts).

200 DEFINITIONS

- 201 **ADHESIVE:** Any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.
- 202 **AEROSOL COATING PRODUCT:** A pressurized coating product containing pigments or resins that dispense product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic/marketing applications.
- 203 **ALUMINUM ROOF COATING:** A coating labeled and formulated exclusively for application to roofs and containing at least 84 grams of elemental aluminum pigment per liter of coating (at least 0.7 pounds per gallon). Pigment content shall be determined in accordance with SCAQMD Method 318-95, incorporated by reference in Section 502.4.d.
- 204 **ANTENNA COATING:** A coating labeled and formulated exclusively for application to equipment and associated structural appurtenances that are used to receive or transmit electromagnetic signals. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 205 **ANTIFOULING COATING:** A coating labeled and formulated for application to submerged stationary structures and their appurtenances to prevent or reduce the attachment of marine or freshwater biological organisms. To qualify as an antifouling coating, the coating must be registered with both the U.S. Environmental Protection

Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*) and with the California Department of Pesticide Regulation. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).

- 206 **APPURTENANCE:** Any accessory to a stationary structure coated at the site of installation, whether installed or detached, 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, and fire escapes; and window screens.
- 207 **ARCHITECTURAL COATING:** A coating to be applied to stationary structures and their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. Coatings applied in shop applications or to non-stationary structures such as airplanes, ships, boats, railcars, and automobiles, and adhesives are not considered architectural coatings for the purpose of this rule.
- 208 **BASEMENT SPECIALTY COATING:** A clear or opaque coating that is labeled and formulated for application to concrete and masonry surfaces to provide a hydrostatic seal for basements and other below-grade surfaces. Basement Specialty Coatings must meet the following criteria:
- 208.1 The coating must be capable of withstanding at least 10 psi of hydrostatic pressure, as determined in accordance with ASTM Standard D7088-08, which is incorporated by reference in Section 502.4.n; and
- 208.2 The coating must be resistant to mold and mildew growth and must achieve a microbial growth rating of 8 or more, as determined in accordance with ASTM D3273-12 and ASTM D3274-09e1, incorporated by reference in Section 502.4.t.
- 209 **BITUMENS:** Black or brown materials including, but not limited to, asphalt, tar, pitch, and asphaltite that are soluble in carbon disulfide, consist mainly of hydrocarbons, and are obtained from natural deposits or as residues from the distillation of crude petroleum or coal.
- 210 **BITUMINOUS ROOF COATING:** A coating which incorporates bitumens that is labeled and formulated exclusively for roofing.
- 211 **BITUMINOUS ROOF PRIMER:** A primer which incorporates bitumens that is labeled and formulated exclusively for roofing and intended for the purpose of preparing a weathered or aged surface or improving the adhesion of subsequent surfacing components.
- 212 **BOND BREAKER:** A coating labeled and formulated for application between layers of concrete to prevent a freshly poured top layer of concrete from bonding to the layer over which it is poured.
- 213 **CLEAR BRUSHING LACQUERS:** Clear wood finishes, excluding clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by solvent evaporation without chemical reaction and to provide a solid, protective film, which are intended exclusively for application by brush, and which are labeled as specified in Section 401.5. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 214 **CLEAR WOOD COATINGS:** Clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film. (This definition will sunset on March 24, 2016 and any coating meeting this

definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).

- 215 **COATING:** A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains.
- 216 **COLORANT:** A concentrated pigment dispersion in water, solvent, and/or binder that is added to an architectural coating after packaging in sale units to produce the desired color.
- 217 **CONCRETE CURING COMPOUND:** A coating labeled and formulated for application to freshly poured concrete to perform one of more of the following functions:
217.1 Retard the evaporation of water; or
217.2 Harden or dustproof the surface of freshly poured concrete.
- 218 **CONCRETE/MASONRY SEALER:** A clear or opaque coating that is labeled and formulated primarily for application to concrete and masonry surfaces to perform one or more of the following functions:
218.1 Prevent penetration of water; or
218.2 Provide resistance against abrasion, alkalis, acids, mildew, staining, or ultraviolet light; or
218.3 Harden or dustproof the surface of aged or cured concrete.
- 219 **DRIVEWAY SEALER:** A coating labeled and formulated for application to worn asphalt driveway surfaces to perform one or more of the following functions:
219.1 Fill cracks; or
219.2 Seal the surface to provide protection; or
219.3 Restore or preserve the appearance.
- 220 **DRY FOG COATING:** A coating labeled and formulated only for spray application such that overspray droplets dry before subsequent contact with incidental surfaces in the vicinity of the surface coating activity.
- 221 **EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS. Exempt compounds content of a coating shall be determined by South Coast Air Quality Management District Method 303-91 (Revised 1993), incorporated by reference in Section 502.4.j.
- 222 **FAUX FINISHING COATING:** A coating labeled and formulated to meet one or more of the following criteria:
222.1 A glaze or textured coating used to create artistic effects, including, but not limited to: dirt, suede, old age, smoke damage, and simulated marble and wood grain; or
222.2 A decorative coating used to create a metallic, iridescent, or pearlescent appearance that contains at least 48 grams of pearlescent mica pigment or other iridescent pigment per liter of coating as applied (at least 0.4 pounds per gallon); or
222.3 A decorative coating used to create a metallic appearance that contains less than 48 grams of elemental metallic pigment per liter of coating as applied (less than 0.4 pounds per gallon), when tested in accordance with SCAQMD Method 318-95, incorporated by reference in Section 502.4.d; or
222.4 A decorative coating used to create a metallic appearance that contains greater than 48 grams of elemental metallic pigment per liter of coating as applied (greater than 0.4 pounds per gallon) and which requires a clear topcoat to prevent the degradation of the finish under normal use conditions. The metallic

- pigment content shall be determined in accordance with SCAQMD Method 318-95, incorporated by reference in Section 502.4.d; or
- 222.5 A clear topcoat to seal and protect a Faux Finishing coating that meets the requirements of Section 222.1, 222.2, 222.3, or 222.4. These clear topcoats must be sold and used solely as part of a Faux Finish coating system, and must be labeled in accordance with Section 401.10.
- 223 **FIRE-RESISTIVE COATING:** A coating labeled and formulated to protect structural integrity by increasing the fire endurance of interior or exterior steel and other structural materials. The Fire Resistive category includes sprayed fire resistive materials and intumescent fire resistive coatings that are used to bring structural materials into compliance with federal, state, and local building code requirements. Fire Resistive coatings shall be tested in accordance with ASTM E119-12a, incorporated by reference in Section 502.4.b. Fire Resistive coatings and testing agencies must be approved by building code officials.
- 224 **FIRE-RETARDANT COATING:** A coating labeled and formulated to retard ignition and flame spread, that has been fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state, and local building code requirements. The fire-retardant coating and the testing agency must be approved by building code officials. The fire-retardant coating shall be tested in accordance with ASTM E84-13a, incorporated by reference in Section 502.4.a. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 225 **FLAT COATING:** A coating that is not defined under any other definition in this rule and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to ASTM D523-08, incorporated by reference in Section 502.4.c.
- 226 **FLOOR COATING:** An opaque coating that is labeled and formulated for application to flooring, including, but not limited to, decks, porches, steps, garage floors, and other horizontal surfaces which may be subject to foot traffic.
- 227 **FLOW COATING:** A coating labeled and formulated exclusively for use by electric power companies or their subcontractors to maintain the protective coating systems present on utility transformer units. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 228 **FORM-RELEASE COMPOUND:** A coating labeled and formulated for application to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.
- 229 **GRAPHIC ARTS COATING OR SIGN PAINT:** A coating labeled and formulated for hand-application by artists using brush, airbrush, or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.
- 230 **HIGH-TEMPERATURE COATING:** A high performance coating labeled and formulated for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).
- 231 **INDUSTRIAL MAINTENANCE COATING:** A high performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats, formulated for application to substrates, including floors, exposed to one or more of the following extreme environmental conditions listed in Sections 231.1 through 231.5, and labeled as specified in Section 401.4:

- 231.1 Immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation; or
- 231.2 Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions; or
- 231.3 Frequent exposure to temperatures above 121°C (250°F); or
- 231.4 Frequent heavy abrasion, including mechanical wear and frequent scrubbing with industrial solvents, cleansers, or scouring agents; or
- 231.5 Exterior exposure of metal structures and structural components.
- 232 **LACQUER:** A clear or opaque wood coating, including clear lacquer sanding sealers, formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and to provide a solid, protective film. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 233 **LOW-SOLIDS COATING:** A coating containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material as recommended for application by the manufacturer. The VOC content for Low Solids Coatings shall be calculated in accordance with Section 402.2.
- 234 **MAGNESITE CEMENT COATING:** A coating labeled and formulated for application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.
- 235 **MANUFACTURER'S MAXIMUM THINNING RECOMMENDATION:** The maximum recommendation for thinning that is indicated on the label or lid of the coating container.
- 236 **MASTIC TEXTURE COATING:** A coating labeled and formulated to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat of at least 10 mils (at least 0.010 inch) dry film thickness.
- 237 **MEDIUM DENSITY FIBERBOARD (MDF):** A composite wood product, panel, molding, or other building material composed of cellulosic fibers (usually wood) made by dry forming and pressing of a resinated fiber mat.
- 238 **METALLIC PIGMENTED COATING:** A coating that is labeled and formulated to provide a metallic appearance. Metallic Pigmented coatings must contain at least 48 grams of elemental metallic pigment (excluding zinc) per liter of coating as applied (at least 0.4 pounds per gallon), when tested in accordance with South Coast Air Quality Management District Method 318-95, incorporated by reference in Section 502.4.d. The Metallic Pigmented Coating category does not include coatings applied to roofs or Zinc-Rich Primers.
- 239 **MULTI-COLOR COATING:** A coating that is packaged in a single container and that is labeled and formulated to exhibit more than one color when applied in a single coat.
- 240 **NONFLAT COATING:** A coating that is not defined under any other definition in this rule and that registers a gloss of 15 or greater on an 85-degree meter and 5 or greater on a 60-degree meter according to ASTM D523-08 incorporated by reference in Section 502.4.c.
- 241 **NONFLAT – HIGH GLOSS COATING:** A nonflat coating that registers a gloss of 70 or greater on a 60 degree meter according to ASTM D523-08 incorporated by reference in Section 502.4.c. Nonflat – High Gloss coatings must be labeled in accordance with Section 401.9.

- 242 **PARTICLEBOARD:** A composite wood product panel, molding, or other building material composed of cellulosic material (usually wood) in the form of discrete particles, as distinguished from fibers, flakes, or strands, which are pressed together with resin.
- 243 **PEARLESCENT:** Exhibiting various colors depending on the angles of illumination and viewing, as observed in mother-of-pearl.
- 244 **PLYWOOD:** A panel product consisting of layers of wood veneers or composite core pressed together with resin. Plywood includes panel products made by either hot or cold pressing (with resin) veneers to a platform.
- 245 **POST-CONSUMER COATING:** Finished coatings generated by a business or consumer that have served their intended end uses, and are recovered from or otherwise diverted from the waste stream for the purpose of recycling.
- 246 **PRE-TREATMENT WASH PRIMER:** A primer that contains a minimum of 0.5 percent acid, by weight, when tested in accordance with ASTM D1613-06(2012), incorporated by reference in Section 502.4.e, that is labeled and formulated for application directly to bare metal surfaces to provide corrosion resistance and to promote adhesion of subsequent topcoats.
- 247 **PRIMER, SEALER, AND UNDERCOATER:** A coating labeled and formulated for one or more of the following purposes:
247.1 To provide a firm bond between the substrate and the subsequent coatings; or
247.2 To prevent subsequent coatings from being absorbed by the substrate; or
247.3 To prevent harm to subsequent coatings by materials in the substrate; or
247.4 To provide a smooth surface for the subsequent application of coatings; or
247.5 To provide a clear finish coat to seal the substrate; or
247.6 To block materials from penetrating into or leaching out of a substrate.
- 248 **QUICK-DRY ENAMEL:** A nonflat coating that is labeled as specified in Section 401.8 and that is formulated to have the following characteristics:
248.1 Is capable of being applied directly from the container under normal conditions with ambient temperatures between 16 and 27°C (60 and 80°F);
248.2 When tested in accordance with ASTM D1640-03(2009), incorporated by reference in Section 502.4.f., sets to touch in 2 hours or less, is tack free in 4 hours or less, and dries hard in 8 hours or less by the mechanical test method; and
248.3 Has a dried film gloss of 70 or above on a 60 degree meter.
- (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 249 **QUICK DRY PRIMER, SEALER AND UNDERCOATER:** A primer, sealer or undercoater that is dry to the touch in 30 minutes and can be recoated in 2 hours when tested in accordance with ASTM D1640-03(2009), incorporated by reference in Section 502.4.f. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 250 **REACTIVE PENETRATING SEALER:** A clear or pigmented coating that is labeled and formulated for application to above-grade concrete and masonry substrates to provide protection from water and waterborne contaminants, including but not limited to, alkalis, acids, and salts. Reactive Penetrating Sealers must penetrate into concrete and masonry substrates and chemically react to form covalent bonds with naturally occurring minerals in the substrate. Reactive Penetrating Sealers line the pores of concrete and

masonry substrates with a hydrophobic coating, but do not form a surface film. Reactive Penetrating Sealers must meet all of the following criteria:

- 250.1 The Reactive Penetrating Sealer must improve water repellency at least 80 percent after application on a concrete or masonry substrate. This performance must be verified on standardized test specimens, in accordance with one or more of the following standards, incorporated by reference in Section 502.4.u: ASTM C67-12, ASTM C97/C97M-09, or ASTM C140-13; and
- 250.2 The Reactive Penetrating Sealer must not reduce the water vapor transmission rate by more than 2 percent after application on a concrete or masonry substrate. This performance must be verified on standardized test specimens, in accordance with ASTM E96/E96M-12, incorporated by reference in Section 502.4.v; and
- 250.3 Products labeled and formulated for vehicular traffic surface chloride screening applications must meet the performance criteria listed in the National Cooperative Highway Research Report 244 (1981), incorporated by reference in Section 502.4.w.

Reactive Penetrating Sealers must be labeled in accordance with Section 401.11.

251 **RECYCLED COATING:** An architectural coating formulated such that it contains a minimum of 50% by volume post-consumer coating, with a maximum of 50% by volume secondary industrial materials or virgin materials.

252 **RESIDENTIAL:** Areas where people reside or lodge, including, but not limited to, single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.

253 **ROOF COATING:** A non-bituminous coating labeled and formulated for application to roofs for the primary purpose of preventing water penetration, reflecting ultraviolet light, or reflecting solar radiation.

254 **RUST PREVENTATIVE COATING:** A coating formulated to prevent the corrosion of metal surfaces for one or more of the following applications:

- 254.1 Direct-to-metal coating; or
- 254.2 Coating intended for application over rusty, previously coated surfaces.

The Rust Preventative category does not include the following:

- 254.3 Coatings that are required to be applied as a topcoat over a primer; or
- 254.4 Coatings that are intended for use on wood or any other non-metallic surface.

Rust Preventative coatings are for metal substrates only and must be labeled as such, in accordance with the labeling requirements in Section 401.6.

255 **SANDING SEALER:** A clear or semi-transparent wood coating labeled and formulated for application to bare wood to seal the wood and to provide a coat that can be abraded to create a smooth surface for subsequent applications of coatings. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).

256 **SECONDARY INDUSTRIAL MATERIALS:** Products or by-products of the paint manufacturing process that are of known composition and have economic value but can no longer be used for their intended purpose.

257 **SEMITRANSSPARENT COATING:** A coating that contains binders and colored pigments and is formulated to change the color of the surface, but not conceal the grain pattern or texture.

- 258 **SHELLAC:** A clear or opaque coating formulated solely with the resinous secretions of the lac beetle (*Lacifer lacca*), and formulated to dry by evaporation without a chemical reaction.
- 259 **SHOP APPLICATION:** Application of a coating to a product or a component of a product in or on the premises of a factory or a shop as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).
- 260 **SOLICIT:** To require for use or to specify, by written or oral contract.
- 261 **SPECIALTY PRIMER, SEALER AND UNDERCOATER:**
- 261.1 Prior to March 24, 2016, a coating labeled as specified in Section 401.7 and that is formulated for application to a substrate to seal fire, smoke or water damage; to condition excessively chalky surfaces, or to block stains. An excessively chalky surface is one that is defined as having a chalk rating of four or less as determined by ASTM Designation D 4214-07, incorporated by reference in Section 502.4.g. (This section will sunset on March 24, 2016).
- 261.2 Effective March 24, 2016, a coating that is formulated for application to a substrate to block water-soluble stains resulting from: fire damage; smoke damage; or water damage.
- 262 **STAIN:** A semitransparent or opaque coating labeled and formulated to change the color of a surface but not conceal the grain pattern or texture.
- 263 **STONE CONSOLIDANT:** A coating that is labeled and formulated for application to stone substrates to repair historical structures that have been damaged by weathering or other decay mechanisms. Stone Consolidants must penetrate into stone substrates to create bonds between particles and consolidate deteriorated material. Stone Consolidants must be specified and used in accordance with ASTM E2167-01(2008), incorporated by reference in Section 502.4.x.
- Stone Consolidants are for professional use only and must be labeled as such, in accordance with the labeling requirements in Section 401.12.
- 264 **SWIMMING POOL COATING:** A coating labeled and formulated to coat the interior of swimming pools and to resist swimming pool chemicals. Swimming pool coatings include coatings used for swimming pool repair and maintenance.
- 265 **TEMPERATURE-INDICATOR SAFETY COATING:** A coating labeled and formulated as a color-changing indicator coating for the purpose of monitoring the temperature and safety of the substrate, underlying piping, or underlying equipment, and for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F). (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 266 **TINT BASE:** An architectural coating to which colorant is added after packaging in sale units to produce a desired color.
- 267 **TRAFFIC MARKING COATING:** A coating labeled and formulated for marking and striping streets, highways, or other traffic surfaces, including, but not limited to, curbs, berms, driveways, parking lots, sidewalks, and airport runways.
- 268 **TUB AND TILE REFINISH COATING:** A clear or opaque coating that is labeled and formulated exclusively for refinishing the surface of a bathtub, shower, sink, or countertop. Tub and Tile Refinish coatings must meet all of the following criteria:

- 268.1 The coating must have a scratch hardness of 3H or harder and a gouge hardness of 4H or harder. This must be determined on bonderite 1000, in accordance with ASTM D3363-05(2011)e2, incorporated by reference in Section 502.4.p; and
- 268.2 The coating must have a weight loss of 20 milligrams or less after 1000 cycles. This must be determined with CS-17 wheels on bonderite 1000, in accordance with ASTM D4060-10, incorporated by reference in Section 502.4.q; and
- 268.3 The coating must withstand 1000 hours or more of exposure with few or no #8 blisters. This must be determined on unscribed bonderite, in accordance with ASTM D4585-07, and ASTM D714-02(2009), incorporated by reference in Section 502.4.r; and
- 268.4 The coating must have an adhesion rating of 4B or better after 24 hours of recovery. This must be determined on unscribed bonderite, in accordance with ASTM D4585-07 and ASTM D3359-09e2, incorporated by reference in Section 502.4.o.
- 269 **VARNISH:** A clear or semi-transparent wood coating, excluding lacquers and shellacs, formulated to dry by chemical reaction on exposure to air. Varnishes may contain small amounts of pigment to color a surface, or to control the final sheen or gloss of the finish. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 270 **VENEER:** Thin sheets of wood peeled or sliced from logs for use in the manufacture of wood products such as plywood, laminated veneer lumber, or other products.
- 271 **VIRGIN MATERIALS:** Materials that contain no post-consumer coatings or secondary industrial materials.
- 272 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 273 **VOC ACTUAL:** The weight of VOC per volume of coating, as calculated by the procedure specified in Section 402.2.
- 274 **VOC CONTENT:** The weight of VOC per volume of coating. VOC Content is VOC Regulatory, as defined in Section 275, for all coatings except those in the Low Solids category. For coatings in the Low Solids category, the VOC Content is VOC Actual, as defined in Section 273. If the coating is a multi-component product, the VOC Content is VOC Regulatory as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the VOC content must include the VOCs emitted during curing.
- 275 **VOC REGULATORY:** VOC Regulatory is the weight of VOC per volume of coating, less the volume of water and exempt compounds, as calculated by the procedure specified in Section 402.1.
- 276 **WATERPROOFING CONCRETE/MASONRY SEALER:** A clear or pigmented film-forming coating that is labeled and formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, and staining. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).
- 277 **WATERPROOFING MEMBRANE:** A clear or opaque coating that is labeled and formulated for application to concrete and masonry surfaces to provide a seamless waterproofing membrane that prevents any penetration of liquid water into the substrate. Waterproofing Membranes are intended for the following waterproofing applications:

below-grade surfaces, between concrete slabs, inside tunnels, inside concrete planters, and under flooring materials. Waterproofing Membranes must meet the following criteria:

- 277.1 The coating must be applied in a single coat of at least 25 mils (at least 0.025 inch) dry film thickness; and
- 277.2 The coating must meet or exceed the requirements contained in ASTM C836/C836M-12, incorporated by reference in Section 502.4.s.

The Waterproofing Membrane category does not include topcoats that are included in the Concrete/Masonry Sealer category (e.g., parking deck topcoats, pedestrian deck topcoats, etc.).

- 278 **WATERPROOFING SEALER:** A coating labeled and formulated for application to a porous substrate for the primary purpose of preventing the penetration of water. (This definition will sunset on March 24, 2016 and any coating meeting this definition will be subject to the VOC content limit in Table 1 in Section 301 for the applicable category, except as provided in Section 302).

- 279 **WOOD COATINGS:** Coatings labeled and formulated for application to wood substrates only. The Wood Coatings category includes the following clear and semitransparent coatings: lacquers; varnishes; sanding sealers; penetrating oils; clear stains; wood conditioners used as undercoats; and wood sealers used as topcoats. The Wood Coatings category also includes the following opaque wood coatings: opaque lacquers; opaque sanding sealers; and opaque lacquer undercoaters. The Wood Coatings category does not include the following: clear sealers that are labeled and formulated for use on concrete/masonry surfaces; or coatings intended for substrates other than wood.

Wood Coatings must be labeled "For Wood Substrates Only", in accordance with Section 401.13.

- 280 **WOOD PRESERVATIVE:** A coating labeled and formulated to protect exposed wood from decay or insect attack, that is registered with both the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code (U.S.C.) Section 136, *et seq.*) and with the California Department of Pesticide Regulation.

- 281 **WOOD SUBSTRATE:** A substrate made of wood, particleboard, plywood, medium density fiberboard, rattan, wicker, bamboo, or composite products with exposed wood grain. Wood Products do not include items comprised of simulated wood.

- 282 **ZINC-RICH PRIMER:** A coating that meets all of the following specifications:
- 282.1 The coating contains at least 65 percent metallic zinc powder or zinc dust by weight of total solids; and
 - 282.2 The coating is formulated for application to metal substrates to provide a firm bond between the substrate and subsequent applications of coatings; and
 - 282.3 The coating is intended for professional use only and is labeled as such, in accordance with the labeling requirements in Section 401.14.

300 STANDARDS

- 301 **VOC CONTENT LIMITS:** Except as provided in Sections 302 and 303, no person shall:
- 301.1 Manufacture, blend, or repackage for sale within the District; or
 - 301.2 Supply, sell, or offer for sale within the District; or
 - 301.3 Solicit for application or apply within the District, any architectural coating with a VOC content in excess of the corresponding limit specified in Table 1. Limits are expressed as VOC Regulatory, thinned to the manufacturer's maximum recommendation, excluding any colorant added to tint bases.

Table 1

Coating Category	VOC Content Limit ¹ , g/L			
	In Effect Prior to March 24, 2016 (This column will sunset on March 24, 2016).	Effective March 24, 2016		
Flat Coatings	100	50		
Nonflat Coatings	150	100		
Nonflat – High Gloss Coatings	250	150		
Specialty Coatings:				
Aluminum Roof Coatings	Metallic Pigmented Coatings (500)	400		
Antenna Coatings ²	530	Eliminated		
Antifouling Coatings ²	400	Eliminated		
Basement Specialty Coatings	Waterproofing Sealers (250) or Waterproofing Concrete/Masonry Sealers (400), as applicable	400		
Bituminous Roof Coatings	300	50		
Bituminous Roof Primers	350	350		
Bond Breakers	350	350		
Clear Wood Coatings: ²				
Clear Brushing Lacquer	680	Eliminated		
Lacquers (including lacquer sanding sealers)	550	Eliminated		
Sanding Sealers (other than lacquer sanding sealers)	350	Eliminated		
Varnishes	350	Eliminated		
Concrete Curing Compounds	350	350		
Concrete/Masonry Sealers	Waterproofing Sealers (250) or Waterproofing Concrete/Masonry Sealers (400), as applicable	100		
Driveway Sealers	Flat (100), Non-Flat (150), or Non-Flat High Gloss (250), as Applicable	50		
Dry Fog Coatings	400	150		
Faux Finishing Coatings	350	350		
Fire Resistive Coatings	350	350		
Fire Retardant Coatings: ²				
Clear	650	Eliminated		
Opaque	350	Eliminated		
Floor Coatings	250	100		
Flow Coatings ²	420	Eliminated		
Form-Release Compounds	250	250		

Table 1

Coating Category	VOC Content Limit ¹ , g/L			
	In Effect Prior to March 24, 2016 (This column will sunset on March 24, 2016).	Effective March 24, 2016		
Graphic Arts Coatings (Sign Paints)	500	500		
High Temperature Coatings	420	420		
Industrial Maintenance Coatings	250	250		
Low Solids Coatings ¹	120	120		
Magnesite Cement Coatings	450	450		
Mastic Texture Coatings	300	100		
Metallic Pigmented Coatings	500	500		
Multi-Color Coatings	250	250		
Pre-Treatment Wash Primers	420	420		
Primers, Sealers, and Undercoaters	200	100		
Quick-Dry Enamels ²	250	Eliminated		
Quick-Dry Primers, Sealers, Undercoaters ²	200	Eliminated		
Reactive Penetrating Sealers	Waterproofing Sealers (250) or Waterproofing Concrete/ Masonry Sealers (400), as applicable	350		
Recycled Coatings	250	250		
Roof Coatings	250	50		
Rust Preventative Coatings	400	250		
Shellacs: Clear	730	730		
Opaque	550	550		
Specialty Primers, Sealers and Undercoaters	350	100		
Stains	250	250		
Stone Consolidants	Waterproofing Sealers (250) or Waterproofing Concrete/ Masonry Sealers (400), as applicable	450		
Swimming Pool Coatings	340	340		
Swimming Pool Repair and Maintenance Coatings ²	340	Eliminated		
Temperature-Indicator Safety Coatings ²	550	Eliminated		
Traffic Marking Coatings	150	100		
Tub and Tile Refinish Coatings	Flat (100), Non-Flat (150), or Non-Flat High Gloss (250), as Applicable	420		

Table 1

Coating Category	VOC Content Limit ¹ , g/L			
	In Effect Prior to March 24, 2016 (This column will sunset on March 24, 2016).	Effective March 24, 2016		
Waterproofing Membranes	Waterproofing Sealers (250) or Waterproofing Concrete/ Masonry Sealers (400), as applicable	250		
Waterproofing Sealers ²	250	Eliminated		
Waterproofing Concrete/ Masonry Sealers ²	400	Eliminated		
Wood Coatings	Clear Wood Coatings Clear Brushing Lacquer (680), Lacquers (including lacquer sanding sealers) (550), Sanding Sealers (other than lacquer sanding sealers) (350), or Varnishes (350)	275		
Wood Preservatives	350	350		
Zinc-Rich Primers	Metallic Pigmented Coatings (500)	340		
<p>¹ Limits are expressed as VOC Regulatory, except for Low Solids Coatings. Limits for Low Solids Coatings are expressed as VOC Actual.</p> <p>² This coating category will sunset on March 24, 2016. After March 24, 2016, these coatings will be subject to the VOC limits for other specialty coating categories, as defined effective March 24, 2016, or by the VOC limits for Flat, Nonflat, or Nonflat-High Gloss coatings, as applicable.</p>				

302 **MOST RESTRICTIVE VOC LIMITS:** If a coating meets the definition in Section 200 for one or more specialty coating categories that are listed in Table 1, then that coating is not required to meet the VOC limits for Flat, Nonflat, or Nonflat-High Gloss coatings, but is required to meet the VOC limit for the applicable specialty coating listed in Table 1.

With the exception of the specialty coating categories specified in Sections 302.1 through 302.12, if a coating is recommended for use in more than one of the specialty coating categories listed in Table 1, the most restrictive (or lowest) VOC content limit shall apply. This requirement applies to: usage recommendations that appear anywhere on the coating container, anywhere on any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or anyone acting on their behalf.

302.1 Metallic pigmented coatings.

302.2 Shellacs.

302.3 Pretreatment wash primers.

302.4 Industrial maintenance coatings.

- 302.5 Low-solids coatings.
 - 302.6 Wood preservatives.
 - 302.7 High temperature coatings.
 - 302.8 Bituminous roof primers.
 - 302.9 Specialty primers, sealers, and undercoaters.
 - 302.10 Aluminum roof coatings.
 - 302.11 Zinc-rich Primers.
 - 302.12 Wood coatings.
- 303 **SELL-THROUGH OF COATINGS:** A coating manufactured prior to March 24, 2016 may be sold, supplied, or offered for sale until March 24, 2019, provided the coating complies with the version of RULE 442 – ARCHITECTURAL COATINGS, effective January 1, 2004 (incorporated by reference). This version of the rule is posted on the District’s web site, www.airquality.org. In addition, such a coating may be applied at any time, both before and after March 24, 2016. This Section 303 does not apply to any coating supplied in a container that does not display the date or date-code required by Section 401.1.
- 304 **PAINTING PRACTICES:** All architectural coating containers used to apply the contents therein to a surface directly from the container by pouring, siphoning, brushing, rolling, padding, ragging or other means, shall be closed when not in use. These architectural coating containers include, but are not limited to, drums, buckets, cans, pails, trays or other application containers. Containers of any VOC-containing materials used for thinning and cleanup shall also be closed when not in use.
- 305 **THINNING:** No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit specified in Table 1 in Section 301.
- 306 **RUST PREVENTATIVE COATINGS:** No person shall apply or solicit the application of any rust preventative coating for industrial use, unless such a rust preventative coating complies with the industrial maintenance VOC limit specified in the Table 1 in Section 301. (This section will sunset on March 24, 2016).
- 307 **COATINGS NOT LISTED IN SECTION 301:** For any coating that does not meet any of the definitions for the specialty coatings categories listed in Table 1 in Section 301, the VOC content limit shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat - High Gloss coating, based on its gloss, as defined in Sections 225, 240 and 241 and the corresponding Flat, Nonflat, or Nonflat – High Gloss Coating VOC limit in Table 1 shall apply.
- 308 **LACQUERS:** Notwithstanding the provisions of Sections 301 and 305, a person or facility may add up to 10 percent by volume of VOC to a lacquer to avoid blushing of the finish during days with relative humidity greater than 70 percent and temperature below 65 degrees Fahrenheit, at the time of application, provided that the coating contains acetone and no more than 550 grams of VOC per liter of coating, less water and exempt compounds, prior to the addition of VOC. (This section will sunset on March 24, 2016).
- 309 **EARLY COMPLIANCE OPTION:** Prior to March 24, 2016, any coating that meets all the requirements of the rule that will be in effect on March 24, 2016 shall be considered in compliance with this rule.
- 400 ADMINISTRATIVE REQUIREMENTS**
- 401 **CONTAINER LABELING REQUIREMENTS:** Each manufacturer of any architectural coating subject to this rule shall display the information listed in Sections 401.1 through 401.14 on the coating container (or label) in which the coating is sold or distributed.

- 401.1 **DATE CODE:** The date the coating was manufactured, or a date code representing the date, shall be indicated on the label, lid, or bottom of the container. If the manufacturer uses a date code for any coating, the manufacturer shall file an explanation of each code with the Executive Officer of the California Air Resources Board, and such explanation shall be made available to the Air Pollution Control Officer immediately upon request.
- 401.2 **THINNING RECOMMENDATIONS:** A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, the recommendation must specify that the coating is to be applied without thinning.
- 401.3 **VOC CONTENT:** Each container of any coating subject to this rule shall display one of the following values in grams of VOC per liter of coating:
- Maximum VOC Content as determined from all potential product formulations; or
 - VOC Content as determined from actual formulation data; or
 - VOC Content as determined using the test methods in Section 502.1. VOC Content, as defined in Section 274, shall be determined as specified in Section 402.

If the manufacturer does not recommend thinning, the container must display the VOC Content, as supplied. If the manufacturer recommends thinning, the container must display the VOC Content, including the maximum amount of thinning solvent recommended by the manufacturer.

Effective March 24, 2016, if the coating is a multi-component product, the container must display the VOC Content as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the VOC Content must include the VOCs emitted during curing.

- 401.4 **INDUSTRIAL MAINTENANCE COATINGS:** In addition to the information specified in Sections 401.1, 401.2 and 401.3, each manufacturer of any industrial maintenance coating subject to this rule shall display on the label or lid of the container in which the coating is sold or distributed one or more of the descriptions listed in Sections 401.4.a through 401.4.c.
- "For industrial use only."
 - "For professional use only."
 - "Not for residential use" or "Not intended for residential use."
- 401.5 **CLEAR BRUSHING LACQUERS:** The labels of all clear brushing lacquers shall prominently display the statements "For brush application only," and "This product must not be thinned or sprayed." (This section will sunset on March 24, 2016).
- 401.6 **RUST PREVENTATIVE COATINGS:** The labels of all rust preventative coatings shall prominently display the statement "For Metal Substrates Only."
- 401.7 **SPECIALTY PRIMERS, SEALERS, AND UNDERCOATERS:** The labels of all specialty primers, sealers, and undercoaters shall prominently display one or more of the descriptions listed in Sections 401.7.a. through 401.7.e.
- For blocking stains.
 - For fire-damaged substrates.
 - For smoke-damaged substrates.
 - For water-damaged substrates.
 - For excessively chalky substrates.
- This section will sunset on March 24, 2016.
- 401.8 **QUICK-DRY ENAMELS:** The labels of all quick dry enamels shall prominently display the words "Quick Dry" and the dry hard time. (This section will sunset on March 24, 2016).

- 401.9 **NON-FLAT – HIGH GLOSS COATINGS:** The labels of all non-flat – high gloss coatings shall prominently display the words “High Gloss.”
- 401.10 **FAUX FINISHING COATINGS:** Effective March 24, 2016, the labels of all clear topcoat Faux Finishing coatings shall prominently display the statement “This product can only be sold and used as part of a Faux Finishing coating system.”
- 401.11 **REACTIVE PENETRATING SEALERS:** Effective March 24, 2016, the labels of all Reactive Penetrating Sealers shall prominently display the statement “Reactive Penetrating Sealer.”
- 401.12 **STONE CONSOLIDANTS:** Effective March 24, 2016, the labels of all Stone Consolidants shall prominently display the statement “Stone Consolidant – For Professional Use Only.”
- 401.13 **WOOD COATINGS:** Effective March 24, 2016, the labels of all Wood Coatings shall prominently display the statement “For Wood Substrates Only.”
- 401.14 **ZINC RICH PRIMERS:** Effective March 24, 2016, the labels of all Zinc Rich Primers shall prominently display one or more of the descriptions listed in Sections 401.14.a through 401.14.c.
- “For industrial use only.”
 - “For professional use only.”
 - “Not for residential use” or “Not intended for residential use.”
- 402 **CALCULATION OF VOC CONTENT:** For the purpose of determining compliance with the VOC content limits in Table 1 in Section 301, the VOC content of a coating shall be determined by using the procedures described in Sections 402.1 or 402.2, as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured. If the manufacturer does not recommend thinning, the VOC Content must be calculated for the product as supplied. If the manufacturer recommends thinning, the VOC Content must be calculated including the maximum amount of thinning solvent recommended by the manufacturer. If the coating is a multi-component product, the VOC Content must be calculated as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the VOC Content must include the VOCs emitted during curing.
- 402.1 VOC Regulatory: VOC Regulatory, as defined in Section 275, shall be determined using the following equation:

$$\text{VOC Regulatory} = (W_s - W_w - W_{ec}) / (V_m - V_w - V_{ec})$$

Where:

VOC Regulatory	=	grams of VOC per liter of coating, excluding water and exempt compounds, (also known as “Coating VOC”)
W_s	=	weight of all volatiles, in grams
W_w	=	weight of water, in grams
W_{ec}	=	weight of exempt compounds, in grams
V_m	=	volume of coating, in liters
V_w	=	volume of water, in liters
V_{ec}	=	volume of exempt compounds, in liters

- 402.2 VOC Actual: VOC Actual, as defined in Section 273, shall be determined using the following equation:

$$\text{VOC Actual} = (W_s - W_w - W_{ec}) / (V_m)$$

Where:

VOC Actual	=	grams of VOC per liter of coating, (also known as “Material VOC”)
W_s	=	weight of all volatiles, in grams
W_w	=	weight of water, in grams
W_{ec}	=	weight of exempt compounds, in grams
V_m	=	volume of coating, in liters

500 MONITORING AND RECORDS**501 REPORTING REQUIREMENTS:**

501.1 ARB REQUEST OF SALES DATA: A responsible official from each manufacturer shall upon request of the Executive Officer of the ARB, or his or her delegate, provide data concerning the distribution and sales of architectural coatings. The responsible official shall within 180 days provide information including, but not limited to:

- a. the name and mailing address of the manufacturer;
- b. the name, address and telephone number of a contact person;
- c. the name of the coating product as it appears on the label and the applicable coating category;
- d. whether the product is marketed for interior or exterior use or both;
- e. the number of gallons sold in California in containers greater than one liter (1.057 quart) and equal to or less than one liter (1.057 quart);
- f. the VOC Actual content and VOC Regulatory content in grams per liter. If thinning is recommended, list the VOC Actual content and VOC Regulatory content after maximum recommended thinning. If containers less than one liter have a different VOC content than containers greater than one liter, list separately. If the coating is a multi-component product, provide the VOC content as mixed or catalyzed;
- g. the names and CAS numbers of the VOC constituents in the product;
- h. the names and CAS numbers of any compound in the product specifically exempted from the VOC definition, as referenced in Section 221;
- i. whether the product is marketed as solvent-borne, waterborne, or 100% solids;
- j. description of resin or binder in the product;
- k. whether the coating is single-component or multi-component product;
- l. the density of the product in pounds per gallon;
- m. the percent by weight of: solids, all volatile materials, water, and any compounds in the product specifically exempted from the VOC definition, as referenced in Section 221;
- n. the percent by volume of: solids, water, and any compounds in the product specifically exempted from the VOC definition, as referenced in Section 221.

501.2 All sales data listed under Section 501.1 shall be maintained by the responsible official for a minimum of three years. Sales data submitted by the responsible official to the Executive Officer of the ARB may be claimed as confidential, and such information shall be handled in accordance with the procedures specified in Title 17, California Code of Regulations Sections 91000-91022.

501.3 DISTRICT INFORMATION REQUEST: Section 501.1 does not limit the Air Pollution Control Officer's authority to request any manufacturer, supplier, wholesaler, or distributor to provide information pursuant to California Health and Safety Code Sections 40701(g) and 42303.2.

502 TESTING PROCEDURES:

502.1 VOC CONTENT: To determine the physical properties of a coating in order to perform the calculation in Section 402, the reference method for VOC content is U.S. Environmental Protection Agency Method 24, incorporated by reference in Section 502.4.k, except as provided in Sections 502.2 and 502.3. An alternative method to determine the VOC content of coatings is South Coast Air Quality Management District Method 304-91 (Revised 1996), incorporated by reference in Section 502.4.l. The exempt compounds content shall be determined by South Coast Air Quality Management District Method 303-91 (Revised 1993), BAAQMD Method 43 (Revised 1996), or BAAQMD Method 41 (Revised 1995), as applicable, incorporated by reference in Sections 502.4.j, 502.4.h, and 502.4.i,

respectively. To determine the VOC content of a coating, the manufacturer may use U.S. Environmental Protection Agency Method 24, or an alternative method as provided in Section 502.2, formulation data, or any other reasonable means for predicting that the coating has been formulated as intended (e.g. quality assurance checks, recordkeeping). However, if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 test results will govern, except when an alternative method is approved as specified in Section 502.2. The District Air Pollution Control Officer may require the manufacturer to conduct a Method 24 analysis.

- 502.2 **ALTERNATIVE TEST METHODS:** Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with Section 502.1, after review and approved in writing by the staffs of the District, the California Air Resources Board, and the U.S. Environmental Protection Agency, may also be used.
- 502.3 **METHACRYLATE TRAFFIC MARKING COATINGS:** Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to a modification of U.S. Environmental Protection Agency Method 24 (40 CFR 59, subpart D, Appendix A), incorporated by reference in Section 502.4.m. This method has not been approved for methacrylate multicomponent coatings used for purposes other than as traffic marking coatings or for other classes of multicomponent coatings.
- 502.4 **TEST METHODS:** The following test methods are incorporated by reference herein, and shall be used to test coatings subject to provisions of this rule:
- a. **Flame Spread Index:** The flame spread index of a fire-retardant coating shall be determined by ASTM E84-13a, "Standard Test Method for Surface Burning Characteristics of Building Materials" (August 2012), (see Section 224, Fire-Retardant Coating). (This section will sunset on March 24, 2016).
 - b. **Fire Resistance Rating:** The fire resistance rating of a fire-resistive coating shall be determined by ASTM E119-12a, "Standard Test Methods for Fire Tests of Building Construction Materials" (July 2012), (see Section 223, Fire-Resistive Coating).
 - c. **Gloss Determination:** The gloss of a coating shall be determined by ASTM D 523-08, "Standard Test Method for Specular Gloss" (June 2008), (see Sections 225, 240, and 241, Flat Coating, Nonflat Coating, and Nonflat-High Gloss Coating).
 1. Gloss Determination for Quick Dry Enamel: The gloss of a Quick Dry Enamel shall be determined by ASTM D 523-08, "Standard Test Method for Specular Gloss" (July 2008), (See Section 248, Quick Dry Enamel. (This section will sunset on March 24, 2016).
 - d. **Metal Content of Coatings:** The metallic content of a coating shall be determined by South Coast Air Quality Management District Method 318-95, "Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction," South Coast Air Quality Management District "Laboratory Methods of Analysis for Enforcement Samples," (see Sections 203, 222, and 238, Aluminum Roof, Faux Finishing, and Metallic Pigmented Coatings).
 - e. **Acid Content of Coatings:** The acid content of a coating shall be determined by ASTM D1613-06(2012), "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products" (June 2012), (see Section 246, Pre-Treatment Wash Primer).
 - f. **Drying Times:** The set-to-touch, dry-hard, dry-to-touch, and dry-to-recoat times of a coating shall be determined by ASTM D1640-03(2009), "Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature " (August 2009), (see Section 248 and 249, Quick-Dry Enamel and Quick-Dry Primer, Sealer, and Undercoater). The tack-free time of a quick-dry enamel coating shall be determined by

- the Mechanical Test Method of ASTM D1640-03(2009). (This section will sunset on March 24, 2016).
- g. **Surface Chalkiness:** The chalkiness of a surface shall be determined using ASTM D4214-07, "Standard test Methods for Evaluating the Degree of Chalking of Exterior Paint Films" (July 2007), (see Section 261, Specialty Primer, Sealer, and Undercoater). (This section will sunset on March 24, 2016).
 - h. **Exempt Compounds – Siloxanes:** Exempt compounds that are cyclic, branched, or linear completely methylated siloxanes, shall be analyzed as exempt compounds for compliance with Section 502 by Bay Area Air Quality Management District Method 43, "Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials," Bay Area Air Quality Management District Manual of Procedures, Volume III, adopted 11/6/96, (see Section 272, Volatile Organic Compounds and Section 502.1).
 - i. **Exempt Compounds – Parachlorobenzotrifluoride (PCBTF):** The exempt compound parachlorobenzotrifluoride, shall be analyzed as an exempt compound for compliance with Section 502 by Bay Area Air Quality Management District Method 41, "Determination of Volatile Organic Compounds in Solvent-Based Coatings and Related Materials Containing Parachlorobenzotrifluoride, Bay Area Air Quality Management District Manual of Procedures, Volume III, adopted 12/20/95, (see Section 272, Volatile Organic Compound and Section 502.1).
 - j. **Exempt Compounds:** The content of compounds exempt under U.S. Environmental Protection Agency Method 24 shall be analyzed by South Coast Air Quality Management District Method 303-91 (Revised 1993), "Determination of Exempt Compounds," South Coast Air Quality Management District "Laboratory Methods of Analysis for Enforcement Samples, (see Section 272, Volatile Organic Compound and Section 502.1).
 - k. **VOC Content of Coatings:** The VOC content of a coating shall be determined by U.S. Environmental Protection Agency Method 24 as it exists in appendix A of 40 Code of Federal Regulations (CFR) part 60, "Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings," (see Section 502.1)
 - l. **Alternative VOC Content of Coatings:** The VOC content of coatings may be analyzed either by U.S. Environmental Protection Agency Method 24 or South Coast Air Quality Management District Method 304-91 (Revised 1996), "Determination of Volatile Organic Compounds (VOC) in Various Materials," South Coast Air Quality Management District "Laboratory Methods of Analysis for Enforcement Samples," (see Section 502.1)
 - m. **Methacrylate Traffic Marking Coatings:** The VOC content of methacrylate multicomponent coatings used as traffic marking coatings shall be analyzed by the procedures in 40 CFR part 59, subpart D, appendix A, "Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings," (see Section 502.3).
 - n. **Hydrostatic Pressure for Basement Specialty Coatings:** ASTM D7088-08, "Standard Practice for Resistance to Hydrostatic Pressure for Coatings Used in Below Grade Applications Applied to Masonry" (June 2008), (see Section 208.1, Basement Specialty Coating).
 - o. **Tub and Tile Refinish Coating Adhesion:** ASTM D4585-07, "Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation" and ASTM D3359-09e2, "Standard Test Methods for

- Measuring Adhesion by Tape Test” (June 2009), (see Section 268.4, Tub and Tile Refinish Coating).
- p. **Tub and Tile Refinish Coating Hardness:** ASTM D3363-05(2011)e2, “Standard Test Method for Film Hardness by Pencil Test” (June 2011), (see Section 268.1, Tub and Tile Refinish Coating).
- q. **Tub and Tile Refinish Coating Abrasion Resistance:** ASTM D4060-10, “Standard Test Methods for Abrasion Resistance of Organic Coatings by the Taber Abraser” (February 2010), (see Section 268.2, Tub and Tile Refinish Coating).
- r. **Tub and Tile Refinish Coating Water Resistance:** ASTM D4585-07, “Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation” (June 2007), and ASTM D714-02(2009), “Standard Test Method for Evaluating Degree of Blistering of Paints” (July 2009), (see Section 268.3, Tub and Tile Refinish Coating).
- s. **Waterproofing Membrane:** ASTM C836/C836M-12, “Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course” (May 2012), (see Section 277, Waterproofing Membrane).
- t. **Mold and Mildew Growth for Basement Specialty Coatings:** ASTM D3273-12, “Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber” (February 2012) and ASTM D3274-09e1, “Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Fungal or Algal Growth, or Soil and Dirt Accumulation” (March 2009), (see Section 208.2, Basement Specialty Coating).
- u. **Reactive Penetrating Sealer Water Repellency:** ASTM C67-12, “Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile” (June 2012); or ASTM C97/C97M-09, “Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone” (April 2009); or ASTM C140-13, “Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units” (March 2013), (see Section 250.1, Reactive Penetrating Sealer).
- v. **Reactive Penetrating Sealer Water Vapor Transmission:** ASTM E96/E96M-12, “Standard Test Method for Water Vapor Transmission of Materials” (December 2012), (see Section 250.2, Reactive Penetrating Sealer).
- w. **Reactive Penetrating Sealer - Chloride Screening Applications:** National Cooperative Highway Research Report 244 (1981), “Concrete Sealers for the Protection of Bridge Structures” (see Section 250.3, Reactive Penetrating Sealer).
- x. **Stone Consolidants:** ASTM E2167-01(2008), “Standard Guide for Selection and Use of Stone Consolidants” (September 2008), (see Section 263, Stone Consolidant).

5-18-98

RULE 443 LEAKS FROM SYNTHETIC ORGANIC CHEMICAL AND POLYMER MANUFACTURING

Adopted 6-5-79

(Amended 11-29-83, 11-20-84, 10-31-89, 9-25-90, 11-16-93, 9-5-96)

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100 GENERAL

- 101 **PURPOSE:** To limit emissions of volatile organic compounds from leaking components including but not limited to: flanges and affected devices which have the potential to vent to the atmosphere at chemical plants that manufacture synthetic organic chemicals and polymers.
- 102 **EXEMPTION, VACUUM CONDITION:** The provisions of this rule shall not apply to affected devices or flanges which are part of a system which is operating at 5 kPa (kilopascals) (0.7 psii) or greater below atmospheric pressure.
- 103 **EXEMPTION, VAPOR PRESSURE:** The routine monitoring requirements of Section 302 shall not apply to those volatile organic compounds with a vapor pressure less than or equal to 0.3 kPa at 20°C (0.05 psia at 68°F) as determined by methods specified in Section 501.5.

200 DEFINITIONS

- 201 **AFFECTED DEVICES:** Including but not limited to valves, pumps, compressors, open-ended lines, sampling connections, agitators and pressure relief devices.
- 202 **AGITATOR:** Any device or apparatus with an external shaft used to stir, blend, shake, or mix process streams containing VOC.
- 203 **BACKGROUND:** A reading as methane on a portable hydrocarbon detection instrument which is determined at least three (3) meters upwind from the affected device or flange to be inspected and uninfluenced by any specific emission point.
- 204 **CHEMICAL PLANT:** A chemical plant is any plant producing organic chemicals and/or manufacturing products by organic chemical processes subject to Rule 201.
- 205 **COMPRESSOR:** A machine used to compress, or increase pressure on, gases.
- 206 **ESSENTIAL AFFECTED DEVICE OR FLANGE:** An affected device or flange which cannot be taken out of service without shutting down the process unit it serves.
- 207 **EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101 – GENERAL PROVISIONS AND DEFINITIONS.
- 208 **FLANGE:** A projecting rim on a pipe or piping component used to attach it to another piping detail.
- 209 **HEAVY LIQUID:** A fluid with vapor pressure less than or equal to 0.3 kPa at 20°C (0.04 psia at 68°F) as determined by the methods specified in Section 501.5.
- 210 **INACCESSIBLE AFFECTED DEVICE OR FLANGE:**
- 210.1 An affected device or flange that would require the elevation of monitoring personnel higher than two (2) meters above permanent support surfaces or require scaffolding; or
 - 210.2 An affected device or flange located more than two (2) meters away from a platform when access is required from a platform.
- 211 **LEAK:** A leak is :
- 211.1 The dripping of liquid volatile organic compounds in excess of three drops per minute; or

- 211.2 A reading as methane on a portable hydrocarbon detection instrument of 10,000 ppm or greater above background when measured within one centimeter of the source; or
- 211.3 The appearance of a visible mist.
- 212 **LEAK MINIMIZATION:** The tightening, adjustment, or addition of packing material to any effected device or flange, or the replacement of any affected device or flange, or the addition or replacement of gaskets to flanges which reduces the rate, appearance, or concentration of leakage from the affected device or flange.
- 213 **LIGHT LIQUID:** A fluid with vapor pressure greater than 0.3 kPa at 20°C (0.04 psia at 68°F) as determined by the methods specified in Section 501.5.
- 214 **PRESSURE RELIEF DEVICE:** A device used to relieve pressure in applications where process pressure may exceed the maximum allowable working pressure of the processing equipment.
- 215 **PROCESS UNIT:** The group of all equipment in a continuous line involved in the manufacturing or processing of synthetic organic chemicals or polymers.
- 216 **PUMP:** A machine or device for transferring a liquid or gas from a source or container through tubes or pipes to another container or receiver.
- 217 **VALVE:** Any device that regulates flow of a fluid in a piping system by means of an external actuator acting to permit or block passage of a fluid including the attached flange end the flange seal.
- 218 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.

300 STANDARDS

- 301 **AFFECTED DEVICES AND FLANGES:**
- 301.1 A person shall not use any affected device or flange at a chemical plant for handling volatile organic compounds unless such affected device or flange does not allow the volatile organic compound being handled to leak into the atmosphere.
- 301.2 Each affected device located at the end of a pipe or line containing volatile organic compounds shall be sealed with a blind flange, plug, or cap when not in use, except for any of the following:
- Valves on product sampling lines
 - Safety pressure relief valves
 - Bleeder valves in double block and bleeder valve systems
 - Water drain valves
 - Loading spouts
- 301.3 Each affected device or flange which has been discovered to be leaking shall be affixed with a weatherproof, brightly colored, readily visible tag bearing the date the leak was discovered. The tag shall remain in place until the leaking affected device is repaired or replaced, reinspected and found to be in compliance with the requirements of this rule.
- 302 **INSPECTION REQUIREMENTS:** Each affected device or flange handling volatile organic compounds shall be inspected for leaks according to the following schedule:
- 302.1 Quarterly inspections with a portable hydrocarbon detection instrument for the following affected devices in VOC service:

- a. Pumps and valves in light liquid service.
 - b. Valves, compressors and pressure relief devices in gas service.
- 302.2 Weekly inspections for visible leaks for pumps in light liquid service.
- 302.3 Inspection within 24 hours after every over-pressure relief to ensure the valve has properly reseated for every pressure relief device.
- 302.4 Annual inspections for all flanges using a portable hydrocarbon detection device.
- 302.5 Annual inspection of valves, if less than 2% of all valves associated with a process unit in VOC service are found to be leaking for five consecutive quarterly inspections. Quarterly inspections must be resumed if during the annual inspection more than 2% of the valves are found to be leaking.

303 REPAIR REQUIREMENTS:

- 303.1 Each leaking affected device or flange shall be repaired within two working days after detection of such leak, except as provided in Subsection 303.2. The repairs shall be such that there will be a no leak condition.
- 303.2 For each essential affected device or flange found to be leaking that cannot be brought into compliance with Section 303.1, the following actions shall be taken:
- a. If, after efforts to repair in accordance with Section 303.1 without shutting down are completed and the leak rate is less than 10 drops per minute, or the detectable hydrocarbon concentration is less than 75,000 ppm (expressed as methane), but more than 10,000 ppm (expressed as methane) above background as measured within 1 centimeter of the source, all of the following actions shall be taken:
 - 1. Within two working days of discovery of non-repairability, the Air Pollution Control Officer shall be given notice of the date the essential affected device or flange will be repaired.
 - 2. Within two working days of repair, the Air Pollution Control Officer shall be notified of the date of repair.
 - 3. Inspection of such essential affected device or flange shall be made monthly until such essential affected device or flange is returned to a no leak condition.
 - 4. Repairs to bring such essential affected device or flange to a no leak condition shall be completed at the next process turnaround or plant shutdown or within six months whichever is the shorter length of time.
 - b. If, after efforts to repair in accordance with Section 303.1 without shutting down are completed and the leak rate is 10 drops per minute or greater, or appearance of a visible mist continues, or the detectable hydrocarbon emissions are 75,000 ppm (expressed as methane) or greater measured within 1 centimeter of the source, one of the following actions shall be taken:
 - 1. Leak minimization repairs shall be made within two (2) days which reduces the leakage rate to the rate stated in Subsection 303.2.a and such essential affected device shall be subject to the provisions of Subsection 303.2.a, or
 - 2. The emissions from the leak shall be reduced by 90% within two (2) working days by the use of an emission control device, as determined by the methods specified in Sections 501.3 and 501.4, or
 - 3. A petition for a variance shall be filed in accordance with Rule 602, BREAKDOWN CONDITIONS, EMERGENCY VARIANCES.
- 303.3 A person complying with Sections 303.1, 303.2.a, 303.2.b.1, and 303.2.b.2 shall be exempt from the provisions of Rule 602, BREAKDOWN CONDITIONS, EMERGENCY VARIANCES.

- 304 INACCESSIBLE AFFECTED DEVICES AND FLANGES:** Inaccessible affected devices and flanges shall be exempt from provisions of Section 302, provided:
- 304.1 The number of inaccessible affected devices and flanges subject to this section does not exceed 5% of the total number of affected devices or flanges associated with a process unit subject to Section 302, and
 - 304.2 A list of the inaccessible affected devices and flanges, including location, subject to this Section is made available to the Air Pollution Control Officer upon request, and
 - 304.3 The reason why the affected device or flange is inaccessible is provided with the list prepared pursuant to Section 304.2, and
 - 304.4 The inaccessible affected devices or flanges are inspected annually.

400 ADMINISTRATIVE REQUIREMENTS

- 401 VIOLATION:** Any leak originally identified by the Air Pollution Control Officer is a violation.

500 MONITORING AND RECORDS:

- 501 TESTING PROCEDURE:** A result by any of the below listed test methods which shows non-compliance with any provision of the rule shall constitute a violation of the rule.
- 501.1 **LEAK DETECTION:** EPA Reference Method 21 shall be used to determine the existence of a leak.
 - 501.2 **VOC CONTENT:** VOC weight percent of process fluids shall be determined by ASTM Method E-168, E-169, E-260, EPA Method 24.
 - 501.3 **CONTROL DEVICE:** Control efficiency and emission rates of control devices shall be determined by EPA Method 25.
 - 501.4 **COLLECTION EFFICIENCY:** Collection efficiency shall be determined using Environmental Protection Agency Guidelines for Developing Capture Efficiency Protocols, 55 Federal Register 26865, June 29, 1990.
 - 501.5 **VAPOR PRESSURE:** Vapor pressures may be obtained from standard reference texts or may be determined by ASTM D-2879-86.
 - 501.6 **DETERMINATION OF EXEMPT PERFLUOROCARBON COMPOUNDS:** If any of the perfluorocarbons are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.
- 502 RECORD KEEPING:** A person subject to this rule shall maintain records of inspections for two years and make inspection records available for review by the Air Pollution Control Officer upon request.
- 502.1 Such records shall include the following for each inspection: identity of the device or flange, date of inspection, date of detection of leak, leak rate, date of repair, leak rate after repair, date when leak free, date when device or flange returns to regular inspection schedule.

RULE 444

PETROLEUM SOLVENT DRY CLEANING

Adopted 8-13-81

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100 GENERAL

101 **PURPOSE:** To limit the emissions of petroleum solvents used in dry cleaning.

110 **EXEMPTION, OTHER SOLVENTS:** This rule shall not apply to dry cleaning using other than a petroleum solvent such as stoddard.

111 **LIMITED EXEMPTION, SMALL USERS:** The provisions of Section 302 of this rule shall not apply to dry

cleaners consuming less than 10,000 liters (2,642 gallons) of petroleum solvent per year.

200 DEFINITIONS

201 SOLVENT RECOVERY DRYER: A class of dry cleaning dryers that employs a condenser to liquify and recover solvent vapors evaporated in a closed loop recirculating stream of heated air.

300 STANDARDS

301 OPERATING REQUIREMENTS: A person shall not operate any dry cleaning equipment which uses petroleum-based solvent unless:

301.1 There is no liquid leaking from any portion of the equipment.

301.2 Solvents are stored in closed containers only, which may be equipped with vents approved by the Air Pollution Control Officer.

301.3 All washer lint traps, button traps, access doors and other parts of the equipment where solvent may be exposed to the atmosphere are kept closed at all times except as required for proper operation or maintenance.

301.4 The still residue is stored in sealed containers or underground tanks, and disposed of by procedures approved by the Air Pollution Control Officer.

301.5 The used filtering material is put into a sealed container immediately after removal from the filter, unless the dry cleaning system is equipped with one of the following filtering systems:

- a. Cartridge filters containing paper or carbon or a combination thereof which are fully drained in the filter housing for at least 12 hours before removal.
- b. Diatomaceous earth filtering system, connected to a centrifugal solvent extractor or other device capable of removing sufficient solvent so that the remaining diatomaceous earth and soil does not contain more than 0.4 kilogram of solvent per kilogram of filter powder and soil removed.
- c. Any other type of filtering system or process found by the Air Pollution Control Officer to emit into the atmosphere 1 kilogram or less of solvent in the discarded soil, lint and filtering material per 100 kilograms of articles cleaned.

301.6 The provisions of section 301.4 and 301.5 shall not apply if the total collection of still residue and filter waste does not exceed 1.5 gallons per day.

302 EMISSION CONTROL REQUIREMENTS: A person operating any dry cleaning dryer shall either:

302.1 Limit solvent emissions to the atmosphere to an average of 3.5 kilograms of solvent per 100 kilograms of articles dry cleaned, or

302.2 Install and operate a solvent recovery dryer in a manner such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of not more than 50 milliliters per minute is attained.

303 EFFECTIVE DATES: The provisions of Section 302 shall become effective in accordance with the following compliance schedule. The solvent consumed by a petroleum solvent dry cleaning plant in a year means the amount of solvent purchased in that year.

303.1 Effective April 6, 1984 all petroleum solvent dry cleaning plants consuming more than 50,000 liters (13,209 gallons) of solvent per year shall comply with the provisions of Section 302.

303.2 Effective April 6, 1985 all petroleum solvent dry cleaning plants consuming more than 25,200 liters (6,657 gallons) of solvent per year shall comply with the provisions of Section 302.

303.3 Effective April 6, 1987 all petroleum solvent dry cleaning plants consuming more than 10,000 liters (2,642 gallons) of solvent per year shall comply with the provisions of Section 302.

400 ADMINISTRATIVE REQUIREMENTS

401 INCREMENTS OF PROGRESS:

401.1 Twelve months prior to the effective dates, submit to the Air Pollution Control Officer an application for Authority to Construct, describing at a minimum, the steps that will be taken to achieve compliance with the provisions of Section 302 of this rule.

401.2 Nine months prior to the effective dates, award the contract for the emission control system, or issue purchase orders for the component parts to accomplish emission control.

401.3 Five months prior to the effective dates, commence on-site construction or installation of equipment to reduce or control emissions.

401.4 One month prior to the effective dates, complete on-site construction or installation of equipment to reduce or control emissions.

401.5 Upon the effective dates be in full compliance with the provisions of Section 302 of this rule.

RULE 446

STORAGE OF PETROLEUM PRODUCTS

Adopted 6-1-74

(Amended 6-1-74, 8-3-77, 11-29-83, 12-4-90, 11-16-93)

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100 GENERAL

101 **PURPOSE:** To limit emissions from storage tanks for organic liquids with a vapor pressure greater than 1.5 psia (10.3 kPa) under actual storage conditions.

110 **EXEMPTIONS:** This rule shall not apply to emissions from:

110.1 Stationary storage tanks having a capacity of less than or equal to 150,000 liters (40,000 gallons).

110.2 The provisions of Section 301 shall not apply to tanks involved in periodic scheduled maintenance or replacement operations of primary or secondary seals that cause the emissions of volatile organic compounds. Such periodic scheduled maintenance must be done in accordance with a plan as defined in Section 403 which has prior written approval of the Air Pollution Control Officer. Scheduled periodic maintenance operations shall not be conducted from May 15 through October 15.

200 DEFINITIONS

201 **EFFICIENCY:** A comparison of controlled emissions to those emissions which would occur from a fixed or cone roof tank in the same product service without a vapor loss control system. Baseline emissions shall be calculated using the criteria in American Petroleum Institute Bulletin 2518.

202 **GAS TIGHT:** A concentration of total organic compounds, measured one (1) cm from any source, which does not exceed 10,000 ppm (expressed as methane) above background, as determined by a method specified in Section 502.3.

203 **ORGANIC LIQUID:** Compounds and mixtures of compounds of carbon which are liquid under actual storage conditions.

300 STANDARDS

301 **CONTAINERS LARGER THAN 150,000 LITERS (40,000 GALLONS):** A person shall not store organic liquid in any stationary container of more than 150,000 liters (40,000 gallons) capacity, unless such container is:

301.1 a pressure tank maintaining working pressures sufficient at all times to prevent organic vapor or gas loss to the atmosphere, or

301.2 designed and equipped with one of the vapor loss control devices specified in Sections 311, 312, or 313.

311 **FLOATING ROOF:** The vapor loss control device may be a floating roof equipped with a closure device consisting of a floating pan-type roof or a pontoon-type or double-deck cover. All floating roofs must rest on the surface of the liquid contents.

311.1 The closure device shall consist of two seals, one above the other; the one below shall be referred to as the

primary seal, and the one above shall be referred to as the secondary seal. The closure device shall comply with the requirements specified in Sections 314 through 317.

311.2 A floating roof shall not be used if the organic liquid stored has a true vapor pressure of 11 psia (75.9 kPa) or greater under actual storage conditions as determined by the methods specified in Section 502.4.

312 INTERNAL FLOATING ROOF: The vapor loss control device may be a fixed roof with an internal floating-type cover.

312.1 A fixed roof container with an internal-floating-type cover shall not be used if the organic liquid stored has a true vapor pressure of 11 psia (75.9 kPa) or greater under actual storage conditions as determined by the methods specified in Section 502.4.

313 VAPOR RECOVERY SYSTEM: The vapor loss control device may be a vapor recovery system capable of collecting and processing all organic vapors and gases and which meets the following requirements:

313.1 The system shall have a recovery efficiency of at least 95% by weight as determined by methods specified in Section 502.

313.2 Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a gas-tight cover which shall be closed at all times, except during gauging or sampling.

313.3 All pressure-vacuum valves shall be constructed and maintained in a gas-tight condition when the valve is seated.

314 CLOSURE DEVICE REQUIREMENTS: The closure device on any floating roof container subject to Section 311 shall meet the following requirements:

314.1 Any secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal.

a. For secondary seals installed after December 4, 1991 no gap between the tank shell and the seal shall exceed:

1. 0.15 cm (0.06 in)
2. 0.05 cm (0.02 in) for a cumulative length greater than 5% of the circumference of the tank.

314.2 All openings in the roof, except pressure-vacuum valves, sampling wells, and gauging wells shall meet the following requirements:

a. The opening shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tanks.

b. The opening shall be equipped with a cover, seal or lid, which shall be closed at all times with no visible gaps, except when the opening is in use.

314.3 Pressure-vacuum valves shall be set to within 10% of the maximum allowable working pressure of the roof.

314.4 Solid sampling and gauging wells shall meet the following requirements:

a. The well shall provide a projection below the liquid surface.

b. The well shall be equipped with a cover, seal or lid, which shall be closed at all times with no visible gaps, except when the well is in use.

314.5 Slotted sampling and gauging wells shall meet the following requirements:

- a. The well shall provide a projection below the liquid surface.
- b. The well shall be equipped with one of the following closure devices which shall be in place at all times except when the well is in use:
 1. An internal float designed to minimize the gap between the float and the well, provided that the gap shall in no case exceed 1.3 cm (1/2 in).
 2. A capped internal sleeve designed to minimize the gap between the sleeve and the well, provided that the gap shall in no case exceed 1.3 cm (1/2 in).
 3. An internal sleeve with no visible gaps between the sleeve and the well and a cover, seal or lid on the well with no visible gaps.

314.6 Any roof drain shall be provided with a slotted membrane fabric cover, or equivalent, that covers at least nine-tenths of the area of the opening.

314.7 The gap between sampling wells, gauging wells, and similar fixed projections through a floating roof, such as anti-rotational pipes, and the roof shall be added to the gaps measured to determine compliance of the secondary seal and in no case shall exceed 1.3 cm (1/2 in).

315 METALLIC SHOE SEAL REQUIREMENTS: For any container which uses a metallic shoe seal to comply with Section 311, the seal shall meet the following requirements:

315.1 There shall be no holes, tears, or openings which allow the emission of organic vapors through the secondary seal. There shall be no holes, tears, or openings in the primary seal envelope surrounding the annular vapor space enclosed by the roof edge, stored liquid surface, shoe, and seal fabric.

315.2 Metallic-shoe-type seals installed on or after September 1, 1978, shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 61 cm (24 in) above the stored liquid surface.

315.3 The geometry of the shoe shall be such that the gap between the shoe and the tank shell shall not exceed twice the seal gap requirements of Section 316 for a vertical length greater than 45.7 cm (18 in).

316 WELDED TANKS WITH METALLIC SHOE SEALS: For any welded tank shell which uses a metallic shoe seal to comply with Section 311, the seal shall meet the following requirements:

316.1 No gap between the tank shell and the primary seal shall exceed

- a. 3.8 cm (1-1/2 in).
- b. 1.3 cm (1/2 in) for a cumulative length greater than 10% of the circumference of the tank.
- c. 0.32 cm (1/8 in) for a continuous length of more than 10% of the circumference of the tank.
- d. 0.32 cm (1/8 in) for a cumulative length greater than 40% of the circumference of the tank.

316.2 No gap between the tank shell and the secondary seal shall exceed

- a. 1.3 cm (1/2 in)
- b. 0.32 cm (1/8 in) for a cumulative length greater than 5% of the circumference of the tank.

316.3 The secondary seal shall allow easy insertion of probes up to 3.8 cm (1-1/2 in) in width in order to measure gaps in the primary seal.

317 RESILIENT TOROID SEAL REQUIREMENTS: For any container which uses a resilient toroid seal to comply

with Section 311, the seal shall meet the following requirements:

317.1 There shall be no holes, tears, or openings which allow the emission of organic vapors through the secondary seal. There shall be no holes, tears, or openings in the primary seal envelope surrounding the annular vapor space enclosed by the roof edge, seal fabric and primary seal.

317.2 For primary seals no gap between the tank shell and the seal shall exceed:

- a. 1.3 cm (1/2 in)
- b. 0.3 cm (1/8 in) for a cumulative length greater than 5% of the circumference of the tank.

317.3 For secondary seals no gap between the tank shell and the secondary seal shall exceed:

- a. 1.3 cm (1/2 in)
- b. 0.3 cm (1/8 in) for a cumulative length greater than 5% of the circumference of the tank.

317.4 The secondary seal shall allow easy insertion of probes up to 1.3 cm (1/2 in) in width in order to measure gaps in the primary seal.

400 ADMINISTRATIVE REQUIREMENTS

401 INSPECTION, SELECTED LOCATIONS: The primary seal envelope shall be available for unobstructed inspection by the APCO on an annual basis at four locations selected along its circumference at random by the APCO. If the APCO detects one or more violations as a result of any such inspection, the APCO may require such further unobstructed inspection of the primary seal as may be necessary to determine the seal condition for its entire circumference.

402 INSPECTION, FULL CIRCUMFERENCE: For tanks with secondary seals installed after September 1, 1978, the primary seal envelope shall be made available for inspection by the APCO for its full length every 5 years after September 1, 1977, except that if the secondary seal is voluntarily removed by the owner or operator prior thereto, it shall be made available for such inspection at that time. The owner or operator shall provide notification to the APCO no less than 7 working days prior to voluntary removal of the secondary seal.

403 MAINTENANCE PLAN: Maintenance plans shall be submitted to the Air Pollution Control Officer at least thirty days prior to anticipated maintenance. The plan shall state the amount and type of emission anticipated, method of calculating emissions, and the reason that the work is necessary, including the effect of not performing the maintenance.

500 MONITORING AND RECORDS

501 RECORDS: A person storing organic liquids shall keep an accurate record of liquids stored, the true vapor pressure ranges, and the actual storage temperature of such liquids.

502 TESTING PROCEDURE: A result by any of the below listed test methods which shows non-compliance with any provision of the rule shall constitute a violation of the rule.

502.1 CONTROL DEVICE: Control efficiency and emission rates of control devices shall be determined by EPA Method 25 or ARB Method 422.

502.2 COLLECTION EFFICIENCY: Collection efficiency shall be determined using Environmental Protection Agency Guidelines for Developing Capture Efficiency Protocols, 55 Federal Register 26865, June 29, 1990.

502.3 LEAK DETECTION: EPA Reference Method 21.

502.4 **VAPOR PRESSURE:** Vapor pressure may be obtained from standard reference texts or may be determined by ASTM D-2879-83 or ASTM D-323-82.

RULE 447
ORGANIC LIQUID LOADING

*(Adopted 1-14-74; Amended 12-6-78, 5-15-79, 8-31-82,
11-29-83, 11-20-84, 4-18-89, 4-3-90, 4-30-91, 11-16-93, 9-5-96,
4-3-97, 12-4-97, 04-02-98)*

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100 GENERAL

101 PURPOSE:

To limit emissions from the loading of organic liquids.

102 APPLICABILITY:

The requirements of this rule shall apply to the loading of organic liquids into any tank truck, trailer, or railroad tank car from a bulk plant or a bulk terminal.

110 EXEMPTION, LOW VAPOR PRESSURE ORGANIC LIQUIDS:

The loading of organic liquids having a vapor pressure less than 0.5 psia under actual loading conditions is exempt from this rule.

200 DEFINITIONS**201 BACKGROUND:**

A reading as methane on a portable hydrocarbon detection instrument which is determined at least three (3) meters upwind from the affected device to be inspected and uninfluenced by any specific emission point.

202 BULK PLANT:

An organic liquid distribution facility which receives organic liquid from a refinery or bulk terminal by tank truck and distributes the organic liquid by railroad tank car or tank truck to motor vehicles as defined in Rule 449, TRANSFER OF GASOLINE INTO VEHICLE FUEL TANK or stationary storage containers.

203 BULK TERMINAL:

An organic liquid distribution facility which receives organic liquid from the refinery by means other than truck.

204 CALIFORNIA AIR RESOURCES BOARD-CERTIFIED VAPOR RECOVERY SYSTEM:

A vapor recovery system which has been certified by the California Air Resources Board pursuant to Section 41954 of the Health and Safety Code.

205 EXEMPT COMPOUND:

For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101--GENERAL PROVISIONS AND DEFINITIONS.

206 GASOLINE VAPORS:

The reactive organic compounds in the displaced vapors including any entrained liquid gasoline.

207 LEAK FREE:

A liquid leak of less than three drops per minute excluding losses which occur upon disconnecting transfer fittings, provided such disconnect losses do not exceed one (1) fluid ounce, averaged over three disconnects.

208 LOADING FACILITY:

Any stationary source with organic liquid loading equipment.

209 ORGANIC LIQUID:

Any liquid which contains volatile organic compounds and has a total vapor pressure greater than or equal to 0.5 psia at actual loading conditions.

210 VAPOR TIGHT:

A concentration of total organic compounds, measured one (1) cm from any source, which does not exceed 10,000 ppm (expressed as methane) above background, as determined by a method specified in Section 501.3.

211 VOLATILE ORGANIC COMPOUND (VOC):

For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101--GENERAL PROVISIONS AND DEFINITIONS.

300 STANDARDS

301 VAPOR RECOVERY REQUIREMENTS; BULK TERMINALS:

A person shall not transfer or permit the transfer of organic liquids into any tank truck, trailer or railroad tank car from a bulk terminal unless the emissions to the atmosphere do not exceed 0.08 pounds of VOC per one thousand (1,000) gallons of organic liquids transferred as determined by a method specified in Section 501.1.

302 VAPOR RECOVERY REQUIREMENTS; BULK PLANTS:

A person shall not transfer or permit the transfer of organic liquids into any tank truck, trailer or railroad tank car from a bulk plant unless the emissions to the atmosphere do not exceed 0.6 pounds of VOC per one thousand (1,000) gallons of organic liquids transferred as determined by a method specified in Section 501.1.

303 CALIFORNIA AIR RESOURCES BOARD CERTIFIED VAPOR RECOVERY SYSTEM: Effective May 31, 1991 a person shall not load gasoline as defined in RULE 448, GASOLINE TRANSFER INTO STATIONARY STORAGE CONTAINERS into any tank truck, trailer, or railroad tank car from a bulk plant or bulk terminal unless the bulk plant or bulk terminal is equipped with a California Air Resources Board-certified vapor collection and disposal system.

304 EQUIPMENT MAINTENANCE:

All equipment associated with loading facilities shall be maintained to be leak free and vapor tight.

305 VAPOR DIAPHRAGM REQUIREMENTS: Diaphragms used in vapor storage tanks shall be maintained such that the volatile organic compound concentration in the airspace above the diaphragm does not exceed 3,000 parts per million, expressed as methane, as determined by a method specified in Section 501.2.

400 ADMINISTRATIVE REQUIREMENTS *(Not Included)*

500 MONITORING AND RECORDS

501 TESTING PROCEDURE:

A result by any of the below listed test methods which shows non-compliance with any provision of the rule shall constitute a violation of the rule.

501.1 CONTROL DEVICE: Control efficiency and emission rates of control devices shall be determined by EPA Method 18, 25, 25A, 25B, or California Air Resources Board Test Procedure TP-202.1 or TP-203.1.

501.2 DIAPHRAGM AIRSPACE: Concentrations in the airspace above vapor diaphragms shall be determined by EPA Test Method 18 or California Air Resources Board Test Method 150, 1-100, or Test Procedure TP-204.3.

501.3 LEAK DETECTION: EPA Reference Method 21 shall be used to determine vapor tight condition.

501.4 VAPOR PRESSURE: Vapor pressure may be obtained from standard reference texts or may be determined by ASTM D-2879-83 or ASTM D-323-82.

501.5 DETERMINATION OF COMPOUNDS EXEMPT FROM VOC DEFINITION: Compounds exempted from the VOC definition shall be determined in accordance with ASTM D 4457-85 or ARB method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.

502 RECORDS: Persons subject to this rule shall maintain, at the site, records of the results of any testing performed in accordance with Section 501 for three years and make those records available for review by the Air Pollution Control Officer upon request.

RULE 448 GASOLINE TRANSFER INTO STATIONARY STORAGE CONTAINERS

Adopted 2-5-75

(Amended 9-15-75, 8-3-77, 9-2-80, 12-17-91, 2-2-95, 02-26-09)

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100 GENERAL

- 101 **PURPOSE:** To limit emissions resulting from the transfer of gasoline into any stationary storage container or delivery vessel, or from the pump-out of gasoline from any stationary storage container, delivery vessel, or vehicle fuel tank.
- 102 **APPLICABILITY:** This rule applies to the transfer of gasoline or switch loading from any delivery vessel into any stationary storage container with a capacity of 250 gallons or more, or any mobile fueler with a capacity of 120 gallons or more. This rule also applies to the "pump-out" of gasoline from any stationary storage container with a capacity of 250 gallons or more, mobile fueler with a capacity of 120 gallons or more, or vehicle fuel tank with a capacity of 5 gallons or more.
- 110 **EXEMPTION, IMPLEMENTS OF HUSBANDRY:** The provisions of this rule shall not apply to the transfer of gasoline into any stationary container which is used primarily for the fueling of implements of husbandry as such vehicles are defined in Division 16 (Section 36000 et seq) of the California Vehicle Code, if such container is equipped with a permanent submerged fill pipe.

200 DEFINITIONS

- 201 **BACKGROUND:** A reading as methane on a portable hydrocarbon detection instrument which is determined at least three (3) meters upwind from the affected device to be inspected and uninfluenced by any specific emission point.
- 202 **CARB:** The California Air Resources Board.
- 203 **CARB CERTIFIED:** A Phase I or Phase II vapor recovery system, equipment, or any component thereof, for which CARB has evaluated its performance and issued a valid Executive Order pursuant to Health and Safety Code Section 41954. Each component of a system is a separate CARB certified item and cannot be replaced with a non-certified item or other items that are not certified for use with the particular system. Except for qualified repairs, a CARB certified component shall be as supplied by the qualified manufacturer. A rebuilt component shall not be deemed as CARB certified unless the person who rebuilds the component is authorized by CARB to rebuild the designated CARB certified component.
- 204 **DELIVERY VESSEL:** Any motor vehicle, trailer, or rail car used for the transportation of gasoline.
- 205 **DRY BREAK:** A Phase I vapor recovery component that opens only by connection to a mating device to ensure that no gasoline vapors escape from the underground storage tank before the vapor return line is connected and sealed.
- 206 **EXECUTIVE ORDER:** A document issued by CARB pursuant to Health and Safety Code Section 41954 certifying that a specific vapor recovery system meets the applicable performance specifications and setting conditions for the certification.
- 207 **GASOLINE:** Any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 4 pounds per square inch absolute or greater as determined by a method specified in Section 501.1.
- 208 **GASOLINE DISPENSING FACILITY:** A mobile fueler or a stationary source consisting of one or more storage tanks and associated equipment that receives, stores, and dispenses gasoline to motor vehicle fuel tanks.
- 209 **GASOLINE VAPORS:** Organic compounds in the displaced vapors including any entrained liquid gasoline.

- 210 **INSTALLER/CONTRACTOR:** A person(s) engaged in the installation, alteration, repair, or replacement of a vapor recovery system or its components at a gasoline dispensing facility.
- 211 **LEAK FREE:** A liquid leak of less than three drops per minute.
- 212 **MOBILE FUELER:** Any gasoline delivery vessel with an attached container that is used to transport and dispense gasoline from an onboard storage container into any motor vehicle fuel tank.
- 213 **PURGE:** To release gasoline vapors, gases, or hydrocarbon vapors to the atmosphere from a delivery vessel by introduction of air or an inert gas.
- 214 **REBUILD/REBUILT:** Repairs, replacements, or reconstructions to any part of a component of a vapor recovery system that forms the gasoline vapor passage of the component, or that comes in contact with the recovered gasoline vapors in the component. Rebuild does not include the replacement of a complete component with another CARB certified complete component; nor does it include the replacement of a spout, bellows, or vapor guard of a CARB certified nozzle. The new part shall be CARB certified and as supplied by the qualified manufacturer specifically for the CARB certified nozzle.
- 215 **SPILL CONTAINER:** An enclosed container around a Phase I fill pipe that is designed to collect gasoline spillage resulting from disconnection between the liquid gasoline delivery hose and the fill pipe.
- 216 **SUBMERGED FILL PIPE:**
- 216.1 Top Loading: Any fill pipe which has the discharge opening entirely submerged when the liquid level is 6 inches above the bottom of the tank.
- 216.2 Side Loading: Any fill pipe which has the discharge opening entirely submerged when the liquid level is 18 inches above the bottom of the tank.
- 217 **SWITCH LOADING:** The transfer of diesel fuel into a delivery vessel or storage container which previously contained gasoline.
- 218 **TESTER:** Any person(s) who conducts performance or reverification test as required by this Rule or by a CARB Executive Order.
- 219 **VAPOR RECOVERY EQUIPMENT DEFECTS (VRED) LIST:** A list of defects CARB has identified as substantially impairing the efficiency of the vapor recovery system, incorporated by reference in Title 17 CCR Section 94006, pursuant to California Health & Safety Code Section 41960.2(c).
- 220 **VAPOR TIGHT:**
- 220.1 For delivery vessels other than mobile fuelers, a reading 100% or less of the lower explosive limit (21,000 ppm measured as equivalent propane), as determined by the method specified in Section 501.2(a).
- 220.2 For all other operations, a condition under which the concentration of total organic compounds, measured 0.4 inch (1 centimeter) from any source, does not exceed 10,000 ppmv (expressed as methane) above background, as determined by the method specified in Section 501.2(b).

300 STANDARDS

- 301 **EQUIPMENT AND OPERATION REQUIREMENTS:** A person shall not transfer or permit the transfer of gasoline, or perform or permit switch loading, from any delivery vessel into any stationary storage container with a capacity of 250 gallons or more or mobile fueler with a capacity of 120 gallons or more, unless such container is provided with a permanent submerged fill pipe and unless such transfer is made under the following conditions, as applicable:

- 301.1 Underground storage tanks are equipped with a CARB certified vapor recovery system that shall prevent emission to the atmosphere of at least 98%, by volume, of the gasoline vapors displaced from the storage container during the transfer of gasoline into the container. The vapor recovery system shall be maintained and operated according to the manufacturer's specifications and the applicable CARB Executive Orders, and shall meet all of the following:
- a. The vapor recovery system is maintained to be leak free, vapor tight, and in good working order;
 - b. All fill tubes are equipped with vapor tight caps;
 - c. All dry breaks are equipped with vapor tight seals and vapor tight caps;
 - d. Each vapor tight cap is in a closed position except when the fill tube or dry break it serves is actively in use.
 - e. A CARB certified spill container shall be installed and maintained free of standing liquid, debris and other foreign matter. The spill container shall be equipped with an integral drain valve or other devices that are certified by CARB to return spilled gasoline to the underground stationary storage tank. The drain valve shall be maintained closed and vapor tight at all times except when the valve is actively in use.
- 301.2 Aboveground storage tanks are equipped with a CARB certified vapor recovery system that shall prevent emission to the atmosphere of at least 95%, by volume, of the gasoline vapors displaced from the storage container during the transfer of gasoline into the container, or the tank shall be equipped as described in Rule 446 – STORAGE OF PETROLEUM PRODUCTS, and shall meet all of the following:
- a. The vapor recovery system shall be maintained and operated according to the manufacturer's specifications and the applicable CARB Executive Orders;
 - b. The vapor recovery system is maintained to be leak free, vapor tight, and in good working order;
 - c. All fill tubes are equipped with vapor tight caps;
 - d. All dry breaks are equipped with vapor tight seals and vapor tight caps;
 - e. All vapor return lines without dry breaks are equipped with vapor tight caps;
 - f. Each vapor tight cap is in a closed position except when the fill tube or dry break it serves is actively in use.
 - g. All CARB certified coaxial fill tubes are spring-loaded and operated so that the vapor passage from the stationary storage tank or the mobile fueler back to the tank truck trailer is not obstructed.
- 301.3 Mobile fuelers are equipped with a CARB certified vapor recovery system that shall prevent emission to the atmosphere of at least 95%, by volume, of the gasoline vapors displaced from the mobile fueler container during the transfer of gasoline into the container. The vapor recovery system shall be maintained and operated according to the manufacturer's specifications and the applicable CARB Executive Orders, and meet all of the following:
- a. The vapor recovery system is maintained to be leak free, vapor tight, and in good working order;
 - b. The container dome hatch must remain closed and latched at all times. It must not be opened for the purpose of routine tank gauging operations. It may only be opened to accomplish inspections which are necessary due to equipment failures, scheduled maintenance and repairs.
- 302 **DELIVERY VESSELS:** A person shall not operate, or allow the operation of a gasoline delivery vessel other than a mobile fueler, unless it is certified according to CARB Certification Procedure CP-204 and maintained in compliance with the certification requirements, and meets all of the following:
- 302.1 Each gasoline delivery elbow is equipped with sight windows.
- 302.2 The fuel delivery lines shall be maintained leak free, vapor tight, and free of air ingestion. A fuel delivery that is free of air ingestion is determined by observing the fuel stream as clear and free of air bubbles through the sight windows on the delivery system, except during the initial and final 60 seconds of fuel transferring.

- 302.3 All vapor return lines are connected between the delivery vessel and the stationary storage tank or other delivery vessel. In addition, all associated hoses, fittings, and couplings are maintained in a leak free and vapor-tight condition.
- 302.4 The hatch on any delivery vessel shall be equipped with a vapor tight cover during gasoline transfer and pumping. The hatch shall not be opened except for visual inspection, which may be performed after at least three minutes following the completion of the gasoline transfer or pumping. Except otherwise specified by CARB, visual inspection shall be completed in three minutes or less.
- 302.5 A person shall not purge gasoline vapors, gases, or hydrocarbon vapors from a delivery vessel to the atmosphere.
- 303 **PRESSURE VACUUM VALVE REQUIREMENT:** Unless otherwise specified in the applicable CARB Executive Order, the operator of any vapor recovery system shall have a pressure vacuum valve installed on all vent pipes open to the atmosphere with a minimum pressure setting at 2.5 to 6.0 inches of H₂O. The pressure vacuum valve shall have a minimum vacuum setting at 6.0 to 10.0 inches of H₂O.
- 304 **PROHIBITION OF SALE:** A person shall not supply, offer for sale, sell, install or allow the installation of any new or rebuilt vapor recovery system or any of its components, unless the system and components are CARB certified. Each vapor recovery system and its components shall be clearly and permanently marked with the qualified manufacturer's name and model number as certified by CARB. In addition, any qualified manufacturer who rebuilds a component shall also clearly and permanently mark the corresponding information on the component.
- 305 **PUMP-OUT:**
- 305.1 No person shall allow the transfer ("pump-out") of gasoline from a stationary storage container with a capacity of 250 gallons or more or a mobile fueler with a capacity of 120 gallons or more into a stationary storage container or delivery vessel unless the transfer is made using a vapor collection and transfer system capable of returning the displaced vapors to the storage container being pumped out.
- 305.2 No person shall allow the transfer ("pump-out") of gasoline from a vehicle fuel tank with a capacity of 5 gallons or more into a stationary storage container or delivery vessel unless the amount of gasoline allowed to drip outside an area that drains back into the vehicle fuel tank is less than 3 drops per minute.
- 306 **MAINTENANCE INSPECTION:**
- 306.1 The owner/operator of a gasoline dispensing facility shall, at a minimum, verify the following on each day that fuel is delivered:
- The spill container is clean and does not contain gasoline. The spill containment drain valve is seating properly.
 - The fill caps and gaskets are not missing, damaged or loose.
 - The spring-loaded submerged fill pipe seals properly against the coaxial fitting.
 - The dry break (poppet valve) is not missing or damaged.
 - The submerged fill pipe is not missing or damaged.
- 306.2 Any equipment with a major defect listed in the VRED List shall be removed from service and tagged to ensure that is not used until it is repaired and brought into compliance before being returned to service.
- 306.3 The owner or operator of a vapor recovery system shall insure that the removal from service of one component of a vapor recovery system with multiple components will not result in gasoline liquid or vapors entering the atmosphere.
- 306.4 Defects discovered during the maintenance inspection and repaired in accordance with Title 17, Division 3, Subchapter 7.5, Chapter 1, Section 93101 of California Code of Regulations such that after repair gasoline liquid or vapors do not enter the atmosphere shall not constitute a violation of Rule 448.
- 307 **PROHIBITION OF USE:** Whenever a Phase I vapor recovery system, or any component thereof, contains a defect listed in the VRED List, the operator shall mark such system or component "Out of Order". No person shall use or permit the use of such marked component

or system until it has been repaired, replaced, or adjusted, as required to permit proper operation, and the Air Pollution Control Officer has reinspected it or has authorized its use pending reinspection.

400 ADMINISTRATIVE REQUIREMENTS

401 CERTIFICATION:

- 401.1 Effective May 26, 2009, installers/contractors shall not install, alter, repair or replace a vapor recovery system unless they meet all of the following requirements:
- a. Are certified by the International Code Council (ICC) for Vapor Recovery System Installation and Repair, and, if required by the Executive Order, certified by the system manufacturer.
 - b. Maintain valid certifications as required in paragraph (a).
 - c. Have and make available on site proof of any and all certifications required by this Rule, the Executive Order and the Installation, Operation and Maintenance Manual in order to install or maintain specific systems.
- 401.2 Testers shall not test a vapor recovery system unless they meet all of the following requirements:
- a. Effective 3 months after a certification test is available, be certified by the International Code Council (ICC) for Vapor Recovery System Testing and Repair.
 - b. If required by the Executive Order, be certified by the system manufacturer.
 - c. Maintain valid certifications as required in paragraph (a) and (b).
 - d. Have and make available on site proof of any and all certifications required by this Rule, the Executive Order and the Installation, Operation and Maintenance Manual in order to test specific systems.

- 402 **NOTIFICATION OF TESTING:** At least 7 days prior to performance or reverification testing, the owner or operator shall notify the Air Pollution Control Officer of the exact date and time of the test. If the vapor recovery system fails any of the applicable tests and the necessary repairs are performed that same day, the owner or operator may retest the vapor recovery system on the same day without re-notification, provided that the reasons for the test failure and any repairs performed are properly documented in the test reports and repair records.

- 403 **TEST REQUIREMENTS FOR VAPOR RECOVERY SYSTEM:** The following requirements are to verify the proper operation of a vapor recovery system.

- 403.1 **Required Tests:** Unless otherwise specified in the applicable CARB Executive Orders, performance and reverification tests shall include the following, as applicable, according to the test methods specified in Section 501 of this rule:
- a. Static Torque of Rotatable Adaptors Test
 - b. Leak Rate of Drop Tube Test
 - c. Leak Rate of Drop Tube Overfill Protection Devices and Spill Container Drain Valves
 - d. Leak Rate and Cracking Pressure of P/V Valves Test, and
 - e. Static Leak Tests
- 403.2 **Initial Tests:** Within 30 calendar days of completion of construction or modification of any vapor recovery system, the owner or operator shall conduct and pass all applicable performance tests.
- 403.3 **Testing Frequency:** The owner/operator of a gasoline dispensing facility shall perform and pass all applicable reverification tests annually within 30 days of the end of each annual period following the most recent successful tests, or more frequently as required by the applicable CARB Executive Order. For facilities that were not required to perform periodic testing prior to February 26, 2009, the first annual test shall be performed by February 26, 2010.

500 MONITORING AND RECORDS

- 501 **TESTING PROCEDURE:** The performance and reverification tests shall be conducted in accordance with the following test methods. All test methods referenced in this section shall

be the most recent version approved by the U.S. Environmental Protection Agency, CARB, and the Air Pollution Control Officer or as stated in the applicable Executive Orders.

- 501.1 Vapor Pressures: Vapor pressures shall be determined by ASTM D2879-97 (2007), ASTM D323-06 or ASTM D5191-07.
- 501.2 Vapor Tight:
 - a. For delivery vessels other than mobile fuelers, CARB Vapor Recovery Test Procedure TP-204.3 shall be used to determine vapor tight condition.
 - b. For all other operations, EPA Reference Method 21 shall be used to determine vapor tight condition.
- 501.3 Static Torque of Rotatable Phase I Adaptors: CARB Test Procedure TP-201.1B.
- 501.4 Leak Rate of Drop Tube/Drain Valve Assembly Test: CARB Test Procedure TP-201.1C.
- 501.5 Leak Rate of Drop Tube Overfill Protection Devices and Spill Container Drain Valves: CARB Test Procedure TP-201.1D
- 501.6 Leak Rate and Cracking Pressure of P/V Valves Test: CARB Test Procedure TP-201.1E
- 501.7 Static Leak Tests: CARB Test Procedure TP-201.3 or TP-201.3B as applicable.
- 501.8 Those vapor recovery systems whose CARB Executive Orders specify different tests to be performed instead of, or in addition to, the referenced test methods, or which, by their design, preclude the use of the referenced test methods, shall be tested in accordance with the test procedures specified in the applicable CARB Executive Orders or their equivalents as approved by the APCO and EPA.
- 501.9 Multiple Test Methods: When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

502 **RECORDKEEPING:** A person subject to this rule shall maintain the following records on-site and make them available for review by the Air Pollution Control Officer immediately upon request.

- 502.1 Results of the tests specified in Section 402 shall be delivered to the Air Pollution Control Officer within thirty (30) days of the completion of the test. The test results shall contain the following information:
 - a. Name, location, address, and telephone number of the facility tested, and Sacramento Metropolitan Air Quality Management District permit number
 - b. Name, address and phone number of the person or company performing the test
 - c. Date of the test
 - d. Test data
 - e. Statement of pass or fail
- 502.2 Maintenance inspection reports shall include at least the following:
 - a. Date and time of inspection
 - b. List of defects from the VRED List that are applicable to the vapor recovery equipment and have a verification procedure of "direct observation" or "direct measurement"
 - c. Notation by person performing inspection whether each defect is present
 - d. Description of any defects discovered
 - e. Action taken upon discovery of a defect
 - f. Name and signature of person performing inspection
- 502.3 The following records must be retained by the owner or operator for a period not less than 3 years (5 years for sources subject to the requirements of Rule 207, Title V - Federal Operating Permit Program):
 - a. Maintenance records for the vapor recovery system
 - b. Repair records for the vapor recovery system
 - c. Maintenance inspection reports
 - d. Records of repairs performed as a result of defects discovered during maintenance inspections
 - e. Performance test results
 - f. Reverification of performance test results

RULE 449 TRANSFER OF GASOLINE INTO VEHICLE FUEL TANKS**Adopted 2-5-75****(Amended 9-15-75, 6-1-76, 8-3-77, 9-29-87, 12-17-91, 2-2-95, 4-3-97, 09-26-02, 02-26-09)****INDEX****100 GENERAL**

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100 GENERAL

- 101 **PURPOSE:** To limit the emission of gasoline vapor into the atmosphere when motor vehicle fuel tanks are filled.
- 102 **APPLICABILITY:** The provisions of this rule shall apply to the transfer of gasoline from any stationary storage tank or delivery vessel into any motor vehicle fuel tank.
- 110 **EXEMPTION, DISPENSING EQUIPMENT FOR EMERGENCY MOTOR VEHICLES:** The provisions of this rule shall not apply to dispensing equipment that is used exclusively for the fueling of emergency motor vehicles while on location at an emergency.
- 111 **EXEMPTION, DISPENSING EQUIPMENT FOR IMPLEMENTS OF HUSBANDRY:** The provisions of this rule shall not apply to dispensing equipment which is used primarily for the fueling of implements of husbandry as such vehicles are defined in Division 16 (Section 36000 et seq) of the California Vehicle Code, if such container is equipped with a permanent submerged fill pipe.
- 112 **EXEMPTION, MAINTENANCE INSPECTION:** The maintenance inspection requirements in Section 303 shall not be required on Saturdays, Sundays, and holidays for gasoline dispensing facilities with a six month average monthly gasoline throughput of less than 100,000 gallons.
- 113 **EXEMPTION, E85:** The requirements of this rule shall not apply to the dispensing of E85 into a vehicle fuel tank until CARB certifies Phase II vapor recovery systems for the dispensing of E85.
- 114 **EXEMPTION, ONBOARD REFUELING VAPOR RECOVERY:** Except for Sections 308 and 503, the requirements of this rule shall not apply to non-retail gasoline dispensing facilities where 100 percent of the vehicles being refueled are equipped with onboard refueling vapor recovery (ORVR) systems.
- 115 **EXEMPTION, ICC CERTIFICATION:** The requirements of Section 402 shall not apply to the owner/operator of a gasoline dispensing facility or his/her direct employee(s) when replacing any defective nozzles, hoses and breakaways with new or CARB certified re-manufactured components of the same make and model, or alternatives specifically identified in the latest applicable CARB Executive Order.

200 DEFINITIONS

- 201 **BACKGROUND:** A reading as methane on a portable hydrocarbon detection instrument which is determined at least three (3) meters upwind from the affected device to be inspected and uninfluenced by any specific emission point.
- 202 **CARB:** The California Air Resources Board.
- 203 **CARB CERTIFIED:** A Phase I or Phase II vapor recovery system, equipment, or any component thereof, for which CARB has evaluated its performance and issued a valid Executive Order pursuant to Health and Safety Code Section 41954. Each component of a system is a separate CARB certified item and cannot be replaced with a non-certified item or other items that are not certified for use with the particular system. Except for qualified repairs, a CARB certified component shall be as supplied by the qualified manufacturer. A rebuilt component shall not be deemed as CARB certified unless the person who rebuilds the component is authorized by CARB to rebuild the designated CARB certified component.
- 204 **DELIVERY VESSEL:** Any motor vehicle, trailer, or rail car used for the transportation of gasoline.

- 205 **E85:** Any alternative vehicle fuel with a nominal 85 percent ethanol composition, having a Reid vapor pressure of 4 pounds per square inch or greater and meeting the specifications of Title 13 CCR Section 2292.4.
- 206 **EMERGENCY:** An unforeseen combination of circumstances that calls for immediate action to prevent further injury, loss of life or damage to property.
- 207 **EMERGENCY MOTOR VEHICLE:** A motor vehicle used for fire fighting purposes.
- 208 **EXECUTIVE ORDER:** A document issued by CARB pursuant to Health and Safety Code Section 41954 certifying that a specific vapor recovery system meets the applicable performance specifications and setting conditions for the certification.
- 209 **GASOLINE:** Any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 4 pounds per square inch absolute or greater as determined by a method specified in Section 501.1
- 210 **GASOLINE DISPENSING FACILITY:** A mobile fueler or a stationary source consisting of one or more storage tanks and associated equipment that receives, stores, and dispenses gasoline to motor vehicle fuel tanks.
- 211 **HOLD-OPEN LATCHES:** A hold-open latch is any device permanently attached to a gasoline dispensing nozzle for the purpose of providing a continuous flow of gasoline after the operator has started the flow, without the operator's continued assistance.
- 212 **INSTALLER/CONTRACTOR:** A person(s) engaged in the installation, alteration, repair, or replacement of a vapor recovery system or its components at a gasoline dispensing facility.
- 213 **LEAK FREE:** A liquid leak of less than three drops per minute.
- 214 **MOBILE FUELER:** Any gasoline delivery vessel with an attached container that is used to transport and dispense gasoline from an onboard storage container into any motor vehicle fuel tank.
- 215 **MOTOR VEHICLE:** Any vehicle which is self-propelled as defined in Section 415 of the California Vehicle Code.
- 216 **ONBOARD REFUELING VAPOR RECOVERY (ORVR):** A vehicle-based vapor recovery system required by California Code of Regulations, Title 13, Section 1978, or Title 40, Code of Federal Regulations, Part 86.
- 217 **OWNER/OPERATOR:** Any person who owns, leases, or operates a gasoline dispensing facility.
- 218 **REBUILD/REBUILT:** Repairs, replacements, or reconstructions to any part of a component of a vapor recovery system that forms the gasoline vapor passage of the component, or that comes in contact with the recovered gasoline vapors in the component. Rebuild does not include the replacement of a complete component with another CARB certified complete component; nor does it include the replacement of a spout, bellows, or vapor guard of a CARB certified nozzle. The new part shall be CARB certified and as supplied by the qualified manufacturer specifically for the CARB certified nozzle.
- 219 **RETAIL GASOLINE DISPENSING FACILITY:** A gasoline dispensing facility subject to payment of California sales tax on gasoline sales.
- 220 **SIX MONTH AVERAGE MONTHLY GASOLINE THROUGHPUT:** The sum of a gasoline dispensing facility's total gasoline throughput for six months divided by six.

- 221 **SUMMER FUEL:** Gasoline that is required to comply with the requirements of Title 13 CCR, Section 2262.4.
- 222 **TESTER:** Any person(s) who conducts performance or reverification test as required by this Rule or by a CARB Executive Order.
- 223 **TOPPING OFF:** An attempt by a person filling up a motor vehicle to dispense gasoline after the dispensing nozzle primary shut-off mechanism has engaged. The filling of a motor vehicle tank that, because of the configuration of the fill pipe, causes premature activation of the primary shutoff mechanism shall not be considered topping off.
- 224 **VAPOR RECOVERY EQUIPMENT DEFECTS (VRED) LIST:** A list of defects CARB has identified as substantially impairing the efficiency of the vapor recovery system, incorporated by reference in Title 17 CCR Section 94006, pursuant to California Health & Safety Code Section 41960.2(c).
- 225 **VAPOR TIGHT:** A condition under which the concentration of total organic compounds does not exceed 10,000 ppmv (expressed as methane) above background, as determined pursuant to Section 501.2.
- 226 **WINTER FUEL:** Gasoline that is not required to comply with the regulations that are applicable to summer fuel.

300 STANDARDS

- 301 **VAPOR RECOVERY REQUIRED:** A person shall not transfer, or permit the transfer of, gasoline from a stationary storage container with a capacity of 250 gallons or more, or mobile fueler with a capacity of 120 gallons or more, into any motor vehicle fuel tank with a capacity of 5 gallons or more unless the displaced gasoline vapors are processed by a CARB certified vapor recovery system. The vapor recovery system shall have:
- 301.1 For summer fuel, a gasoline vapor control efficiency of at least 95% by weight and a mass emission factor not exceeding 0.38 pounds of gasoline vapors per 1,000 gallons of gasoline dispensed; and
- 301.2 For winter fuel, a gasoline vapor control efficiency of at least 95% by weight or a mass emission factor not exceeding 0.38 pounds of gasoline vapors per 1,000 gallons of gasoline dispensed.
- 302 **EQUIPMENT MAINTENANCE:** A person shall not transfer, or permit the transfer, or provide equipment for the transfer, of gasoline from a stationary storage container or mobile fueler subject to the provisions of Section 301 into any motor vehicle fuel tank of 5 gallons or more capacity unless:
- 302.1 The vapor recovery system is operating in accordance with the applicable CARB Executive Orders, the manufacturer's specifications, and is maintained to be leak free, vapor tight, and in good working order; and
- 302.2 The equipment is operated and maintained without any of the applicable defects listed in the VRED List.
- 303 **MAINTENANCE INSPECTION:**
- 303.1 Maintenance inspections, except as provided in Section 112, shall be conducted for each day the vapor recovery system is operated to ensure that vapor recovery system components that are verifiable through direct measurement or observation are in proper working order.
- 303.2 Any equipment with a major defect listed in the VRED List shall be removed from service and tagged to ensure that it is not used until it is repaired and brought into compliance before being returned to service. The owner or operator of a vapor recovery system shall insure that the removal from service of one component of a vapor recovery system with multiple components will not result in gasoline liquid or vapors entering the atmosphere.

- 303.3 Defects discovered during the maintenance inspection and repaired in accordance with Title 17, Division 3, Subchapter 7.5, Chapter 1, Section 93101 of California Code of Regulations such that after repair gasoline liquid or vapors do not enter the atmosphere shall not constitute a violation of Rule 449.
- 304 **PROHIBITION OF USE:** Whenever a Phase II vapor recovery system, or any component thereof, contains a defect listed in the VRED List, the operator shall mark such system or component "Out of Order". No person shall use or permit the use of such marked component or system until it has been repaired, replaced, or adjusted, as required to permit proper operation, and the Air Pollution Control Officer has reinspected it or has authorized its use pending reinspection.
- 305 **POSTING OF OPERATING INSTRUCTIONS:** The operator of each retail facility utilizing a Phase II system shall conspicuously post in the gasoline dispensing area operating instructions for the system and the Sacramento Metropolitan Air Quality Management District's or CARB's telephone number for complaints. The instructions shall clearly describe how to fuel motor vehicles correctly with vapor recovery nozzles utilized at the station, and shall include a warning that topping off may result in spillage or recirculation of gasoline and therefore is prohibited.
- 306 **HOLD OPEN LATCHES:** All gasoline dispensing nozzles subject to Section 301 shall be equipped with hold open latches unless the usage of the hold open latch is prohibited by the local fire Marshall.
- 307 **PROHIBITION OF SALE:** A person shall not supply, offer for sale, sell, install or allow the installation of any new or rebuilt vapor recovery system or any of its components, unless the system and component are CARB certified. Each vapor recovery system and its components shall be clearly and permanently marked with the qualified manufacturer's name and model number as certified by CARB. In addition, any qualified manufacturer who rebuilds a component shall also clearly and permanently mark the corresponding information on the component.
- 308 **ONBOARD REFUELING VAPOR RECOVERY:** The owner or operator of a non-retail gasoline dispensing facility claiming exemption pursuant to Section 114 shall submit an application pursuant to Rule 201- GENERAL PERMIT REQUIREMENTS for an Authority to Construct and Permit to Operate the gasoline dispensing facility and agree to comply with the following conditions:
- 308.1 No fuel shall be dispensed into a vehicle that is not owned or under direct control of the owner/operator, except for a vehicle being used in an emergency;
- 308.2 No fuel shall be dispensed into a vehicle not equipped with an ORVR system, except for a vehicle being used in an emergency.
- 308.3 The gasoline dispensing facility shall use nozzles that are part of a CARB certified vapor recovery system, except that the vapor return line shall be sealed off.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **TEST REQUIREMENTS FOR VAPOR RECOVERY SYSTEM:** The following requirements are to verify the proper operation of a vapor recovery system.
- 401.1 **Required Tests:** Unless otherwise specified in the relevant CARB Executive Orders, performance and reverification tests shall include the following, as applicable, according to the test methods specified in Section 501 of this rule:
- a. Static Pressure (Leak Decay) Test
 - b. Air-to-Liquid (A/L) ratio test
 - c. Dynamic Back Pressure Test, and
 - d. Liquid Removal Test for balance systems with liquid removal device required by the CARB Executive Orders if more than 100mL of liquid is found in the vapor path. This shall be determined by lowering the gasoline dispensing nozzle into a container and draining all liquid, then measuring the amount of liquid using a graduated cylinder or graduated beaker.

- 401.2 **Initial Tests:** Within 30 calendar days of completion of construction or modification of any vapor recovery system, the owner or operator shall conduct and pass all applicable performance tests.
- 401.3 **Testing Frequency:** The owner/operator of a gasoline dispensing facility shall perform and pass all applicable reverification tests annually, or more frequently as required by the applicable CARB Executive Order.
- a. Gasoline dispensing facilities shall conduct and pass reverification tests within 30 days of the end of each required period following the most recent successful test.
 - b. If CARB-certified in-station diagnostics are used, the Air Pollution Control Officer may change the required frequency of reverification testing to no less than once every two years if allowed by the applicable CARB Executive Orders.
- 402 **CERTIFICATION:**
- 402.1 Effective May 26, 2009, installers/contractors shall not install, alter, repair or replace a vapor recovery system unless they meet all of the following requirements:
- a. Be certified by the International Code Council (ICC) for Vapor Recovery System Installation and Repair, and, if required, be certified by the system manufacturer.
 - b. Maintain valid certifications as required in paragraph (a).
 - c. Have and make available on site proof of any and all certifications required by this Rule, the Executive Order and the Installation, Operation and Maintenance Manual in order to install or maintain specific systems.
- 402.2 Testers shall not test a vapor recovery system unless they meet all of the following requirements:
- a. Effective 3 months after a certification test is available, be certified by the International Code Council (ICC) for Vapor Recovery System Testing and Repair.
 - b. If required by the Executive Order, be certified by the system manufacturer.
 - c. Maintain valid certifications as required in paragraph (a) and (b).
 - d. Have and make available on site proof of any and all certifications required by this Rule, the Executive Order and the Installation, Operation and Maintenance Manual in order to test specific systems.
- 403 **OPERATION AND MAINTENANCE MANUAL:** The owner/operator of a vapor recovery system shall have available an operation and maintenance manual. The manual shall be kept on-site and made available to any person who operates, inspects, maintains, repairs, or tests the vapor recovery equipment as well as the Air Pollution Control Officer upon request. The manual shall, at a minimum, include the following current information:
- 403.1 All applicable CARB Executive Orders and associated Installation, Operation and Maintenance Manuals, Approval Letters, and District permits,
 - 403.2 Manufacturer's manual(s) for all installation, operation and maintenance procedures as required to be provided by CARB CP-201 and CP-206 and any additional instruction provided by the manufacturer,
 - 403.3 System and/or component testing requirements, including test schedules and passing criteria for each of the standard tests listed in Section 401, and
 - 403.4 Protocol for performing daily maintenance inspections, including the components to be inspected and the defects requiring repair.
- 404 **NOTIFICATION OF TESTING:** At least 7 days prior to performance or reverification testing, the owner or operator shall notify the Air Pollution Control Officer of the exact date and time of the test. If the vapor recovery system fails any of the applicable tests and the necessary repairs are performed that same day, the owner or operator may retest the vapor recovery system on the same day without re-notification, provided that the reasons for the test failure and any repairs performed are properly documented in the test reports and repair records.

500 MONITORING AND RECORDS

- 501 **TESTING PROCEDURE:** The performance and reverification tests shall be conducted in accordance with the following test methods. All test methods referenced in this section shall be the most recent version approved by the U.S. Environmental Protection Agency, CARB, and the Air Pollution Control Officer or as stated in the applicable Executive Orders.
- 501.1 Vapor pressures shall be determined by ASTM D2879-97(2007), ASTM D323-06, or ASTM D5191-07.
 - 501.2 Vapor tightness shall be determined using EPA Reference Method 21.
 - 501.3 The static pressure (leak decay) test shall be performed according to the Bay Area Air Quality Management District Manual of Procedures, Source Test Procedure ST-30 or CARB TP-201.3, TP-201.3B, or TP-206.3, as applicable.
 - 501.4 The dynamic back pressure test shall be performed according to the Bay Area Air Quality Management District Manual of Procedures, Source Test Procedure ST-27, or CARB TP-201.4
 - 501.5 The air-to-liquid volume ratio of a Phase II vapor recovery system shall be determined by CARB TP-201.5.
 - 501.6 The liquid removal rate of a Phase II vapor recovery system shall be determined by the Bay Area Air Quality Management District Manual of Procedures, Source Test Procedure ST-37, or CARB TP-201.6.
 - 501.7 Only calibrated equipment meeting the calibration range and intervals specified by CARB and the equipment manufacturer shall be used to conduct any performance or reverification test.
 - 501.8 Those vapor recovery systems whose CARB Executive Orders specify different tests to be performed instead of, or in addition to, the referenced test methods, or which, by their design, preclude the use of the referenced test methods, shall be tested in accordance with the test procedures specified in the applicable CARB Executive Orders or their equivalents as approved by the APCO and EPA.
 - 501.9 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.
- 502 **RECORDKEEPING:** A person subject to this rule shall maintain the following records on-site and make them available for review by the Air Pollution Control Officer immediately upon request.
- 502.1 Results of the tests specified in Section 401 shall be delivered to the Air Pollution Control Officer within thirty (30) days of the completion of the test. The test results shall contain the following information:
 - a. Name, location, address, and telephone number of the facility tested, and Sacramento Metropolitan Air Quality Management District permit number
 - b. Name, address and phone number of the person or company performing the test
 - c. Date of the test
 - d. Test data
 - e. Number of nozzles tested
 - f. Number of tanks tested
 - g. Statement of pass or fail
 - 502.2 Daily maintenance inspection reports shall include at least the following:
 - a. Date and time of inspection
 - b. List of defects from the VRED List that are applicable to the vapor recovery equipment and have a verification procedure of "direct observation" or "direct measurement"
 - c. Notation by person performing inspection whether each defect is present
 - d. Description of any defects discovered
 - e. Action taken upon discovery of a defect
 - f. Name and signature of person performing inspection

- 502.3 The following records must be retained by the owner or operator for a period not less than 3 years (5 years for sources subject to the requirements of Rule 207, Title V - Federal Operating Permit Program):
- a. Maintenance records for the vapor recovery system
 - b. Repair records for the vapor recovery system
 - c. Daily maintenance inspection reports
 - d. Performance test results
 - e. Reverification of performance test results
 - f. Monthly gasoline throughput

503 **RECORDS FOR ORVR EXEMPTION:** The owner or operator of a non-retail gasoline dispensing facility claiming exemption pursuant to Section 114 shall maintain the following records on site and make them available to the Air Pollution Control Officer immediately upon request:

- 503.1. Records of the date and quantity of fuel dispensed, by vehicle.
- 503.2. Records of the make, model, model year, and vehicle identification number of all vehicles refueled at the gasoline dispensing facility.

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RULE 450 GRAPHIC ARTS OPERATIONS
Adopted 7-23-81
(Amended 11-29-83, 2-23-93, 9-5-96, 12-5-96, 3-23-00, 10-23-08)

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100 GENERAL

- 101 **PURPOSE:** To limit the emission of volatile organic compounds from materials as defined in Section 230 used by graphic arts operations.
- 102 **APPLICABILITY:** The provisions of this rule shall apply to graphic arts operations. This rule shall apply to any screen printing operation at any stationary source regardless of the substrate. The requirement of this rule, including the VOC limits in Section 301.1 for adhesives, shall also apply to adhesives used by graphic arts operations unless exempt pursuant to Sections 110.5 or 110.6. The cleaning and storage requirements in Section 302 shall apply to all graphic arts operations at any stationary source including those exempt pursuant to Section 110 of this rule. The requirements of Rule 441, ORGANIC SOLVENTS, shall not apply to operations subject to this rule.
- 103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect, to the extent allowed by law.
- 110 **EXEMPTIONS:**
- 110.1 **GENERAL**
The requirements of this rule, with the exception of Sections 302, 501.1(a) through (g), and 501.3(b)(3) shall not apply to any graphic arts operation at a stationary source which either:
- a. has actual emissions of less than or equal to 60 pounds per calendar month of volatile organic compounds from all graphic arts operations and cleaning materials; or
 - b. receives a permit that limits the potential to emit, as calculated pursuant to Rule 202, NEW SOURCE REVIEW, to less than or equal to 175 pounds of volatile organic compounds per calendar month from all graphic arts operations and cleaning materials.
- 110.2 **Gravure Printing Operations:** This rule shall not apply to gravure printing operations.
- 110.3 **Business and Personal Printers:** This rule shall not apply to business and personal printers such as ink jets, bubble jets, and laser jets.
- 110.4 **Prepress Operations:** This rule shall not apply to prepress operations associated with printing plate making including film photo processors and plate photo processors.
- 110.5 **Aerosol Adhesives – Screen Printing:** The requirements in Section 301 of this rule shall not apply to aerosol adhesives used by screen printing operations provided that the aerosol adhesives comply with the VOC limits for aerosol adhesives under Section 300 - STANDARDS in Rule 460 – ADHESIVES AND SEALANTS.
- 110.6 **Aerosol Adhesives – Graphic Arts Operations (Other than Screen Printing):** The requirements of this rule shall not apply to aerosol adhesives used by graphic arts operations other than screen printing provided that the VOC emissions from the facility are less than 660 pounds per month from all graphic arts operations and the aerosol adhesives comply with the VOC limits for aerosol adhesives under Section 300 - STANDARDS in Rule 460 – ADHESIVES AND SEALANTS.
- 110.7 **Stripping of Cured Inks, Coatings, or Adhesives:** The requirements of Section 302.1 shall not apply to materials used for the stripping of cured inks, cured coatings, or cured adhesives.
- 110.8 **Lithographic and Letter Press Printing, Metering Rollers and Printing Plates:** If, for a given press, the materials used to clean the metering rollers and printing plates (for newsprint as well as other substrates) contain no greater than 100 g/l of VOC, including water and exempt compounds, then that press shall be exempt from the requirements of Sections 302.2, 501.3(b)(2), and 501.3(b)(5).
- 110.9 **Fountain Solutions:** The requirements of Sections 301.2 and 301.4 that are effective October 23, 2009 shall not apply to fountain solutions provided that the total

actual VOC emissions from all offset lithographic printing operations at a stationary source do not exceed 450 pounds per calendar month.

110.10 Heatset Web Offset Lithographic Printing and Heatset Web Letterpress Printing:

- a. The requirements of Section 303.1 shall not apply to a heatset web offset lithographic printing press or a heatset web letterpress printing press with potential to emit from the drying oven, prior to emissions control equipment, less than 25 tons per year of VOC from heatset inks. If the potential to emit from the drying oven is 25 tons per year of VOC or greater, then an enforceable permit condition approved by the Air Pollution Control Officer pursuant to Rule 201— GENERAL PERMIT REQUIREMENTS may be used to limit the potential emissions of VOC from the drying oven, prior to emissions control equipment, to less than 25 tons per year.
- b. The requirements of Section 303.1 shall not apply to a heatset web offset lithographic printing press or a heatset web letterpress printing press used for book printing or to a press with maximum web width of 22 inches or less.
- c. If after October 23, 2008 the actual emissions from the drying oven, prior to emissions control equipment, exceeds or is equal to 25 tons of VOC per 12-month rolling period from heatset inks, then the unit must comply with the requirements of Section 303.1.

110.11 Flexible Package Printing Inks, Coatings, and Adhesives:

- a. The requirements of Section 303.2 shall not apply to a flexible package printing press with potential to emit from the drying oven, prior to emissions control equipment, less than 25 tons per year of VOC from flexible packaging inks, coatings, and adhesives. If the potential to emit from the drying oven is 25 tons per year of VOC or greater, then an enforceable permit condition approved by the Air Pollution Control Officer pursuant to Rule 201— GENERAL PERMIT REQUIREMENTS may be used to limit the potential emissions of VOC from the drying oven, prior to emissions control equipment, to less than 25 tons per year.
- b. If after October 23, 2008 the actual emissions from the drying oven, prior to emissions control equipment, exceeds or is equal to 25 tons of VOC per 12-month rolling period from flexible packaging inks, coatings, and adhesives, then the unit must comply with the requirements of Section 303.2.

200 DEFINITIONS

- 201 **ADHESIVE:** Any substance used to bond one surface to another surface by attachment.
- 202 **AEROSOL ADHESIVE:** An adhesive consisting of a mixture of rubber, resins, liquid and/or gaseous solvents, and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels the pressurized aerosol materials in a finely divided spray when a valve on the container is depressed.
- 203 **APPLICATION EQUIPMENT:** A device used to apply adhesive, coating, or ink materials.
- 204 **BLANKET AND ROLLER WASHES:** Cleaning materials, which are used to remove the printing inks, oils, and paper pieces from the blankets and rollers excluding metering rollers and printing plates.
- 205 **CLOSED CONTAINER:** A container which has a cover that meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 206 **COATING:** A layer of material, excluding adhesives, applied across the entire width of a substrate. For example, in printing, an emulsion, varnish or lacquer applied over a printed surface, and in platemaking, the light-sensitive polymer or mixture applied to a metal plate.
- 207 **COLD BENDING:** A process which subjects the printed color, design, alphabet, symbol, or numeral on a printed object to permanent bending through the application of force.

- 208 **CONTROL DEVICE:** Equipment such as an incinerator or adsorber used to prevent air pollutants from reaching the ambient air.
- 209 **CONVERTING OPERATION:** Coating, waxing, laminating, extrusion coating and printing, for fabrication of base materials. The base materials are then used to produce wraps, bags, and other preformed packages.
- 210 **CURED INK, CURED COATING, OR CURED ADHESIVE:** An ink, coating, or adhesive, which is dry to the touch.
- 211 **DRYING OVEN:** An oven used to hasten the process of drying printed or coated material.
- 212 **ELECTRON BEAM INK:** An ink that dries by chemical reaction caused by high energy electrons.
- 213 **ELECTRONIC CIRCUIT:** A product, which consists of a substrate and a circuitry, created by screen printing a conductive ink on the substrate.
- 214 **EMBOSSING:** A process performed after printing to stamp a raised or depressed image (artwork or type) into the surface of the paper, using engraved metal embossing dies, extreme pressure, and heat.
- 215 **EXEMPT COMPOUND:** An exempt compound has the same meaning as in Rule 101 - GENERAL PROVISIONS AND DEFINITIONS.
- 216 **EXTREME PERFORMANCE INK/COATING:** An ink or coating, used in screen printing on a non-porous substrate that is designed to resist or withstand any of the following:
216.1 five or more years of outdoor exposure;
216.2 exposure to industrial-grade chemicals, solvents, acids, or detergents, oil products (including fuels), cosmetics, temperatures exceeding 76 °C (170 °F), vacuum-forming, embossing or molding.
- 217 **FLEXIBLE PACKAGING INDUSTRY:** Establishments that convert materials consisting of light gauge papers, plastic films, cellulosic films such as cellophane, thin gauge metal sheets such as aluminum foil or steel foil, and combinations thereof into a variety of product packages.
- 218 **FLEXOGRAPHIC PRINTING:** A printing operation utilizing a flexible rubber or other elastomeric plate in which the image area is raised relative to the non-image area.
- 219 **FOUNTAIN SOLUTION:** The solution applied to the image plate to maintain the hydrophilic properties of the non-image areas and to keep the non-image area free from ink. Fountain solution is primarily water and contains at least one of the following materials:
219.1 etchants such as mineral salts;
219.2 hydrophilic gums; or
219.3 VOC additives to reduce the surface tension of the solution.
- 220 **GRAPHIC ARTS OPERATIONS:** Any gravure, screen printing, flexographic, lithographic, or letterpress printing operation, or any coating or laminating operation that manufactures flexible packaging material for the packaging industry. Equipment which has both coating and printing units is considered to be performing a graphic arts operation. Coating operations, which are performed by a machine having only coating units and no printing units, are not graphic arts operations except for flexographic printing operations.
- 221 **GRAVURE PRINTING:** An intaglio printing operation in which the image area is etched below the surface of the printing plate and is transferred directly to the substrate when the substrate is pressed against the plate by an impression roller.

- 222 **HEAT BENDING:** A process which subjects the printed color, design, alphabet, symbol, or numeral on a printed object to permanent bending through the application of heat and force.
- 223 **HEATSET INK:** A printing ink used on continuous web-feed printing presses that are equipped with dryers or ovens. The ink dries or sets by heat induced evaporation of the ink oils and subsequent chilling of the ink by chill rolls.
- 224 **INFLATING:** A process of filling a printed object with air or gas which results in the swelling of the printed area.
- 225 **LAMINATING OPERATIONS:** A process of composing two or more layers of material to form a single multiple-layer sheet by using adhesive as the bonding agent.
- 226 **LETTERPRESS PRINTING:** A printing operation in which the image area is raised relative to the nominate area and the ink is transferred to the paper directly from the image surface.
- 227 **LINE:** The minimum equipment which is required for the application and/or curing of inks and/or coatings on a substrate, including the ink and/or coating applicators and heating oven(s) and associated ink and coating mixing equipment.
- 228 **LITHOGRAPHIC PRINTING:** A printing operation in which the image and non-image areas exist in the same plane. The non-image area is treated chemically so that only the image areas will be printed onto the substrate.
- 229 **MAINTENANCE CLEANING:** A solvent cleaning operation or activity carried out to keep tools, machinery, or general work areas in clean and good operational condition.
- 230 **MATERIAL:** Any material containing VOC including but not limited to coating, adhesive, inks (e.g., printing ink, metallic ink, ultraviolet ink), fountain solutions, thinners, reducers, catalysts, colorants, or solvents used in cleaning.
- 231 **MECHANICALLY FORMED PRODUCTS:** Screen printed products made of plastic substrates which are subjected to vacuum-forming, embossing, inflating, heat bending, or cold bending processes after the screen printing operation.
- 232 **METALLIC INK:** An ink that contains greater than 50 grams of metal per liter (0.4 lb/gal) of ink.
- 233 **METERING ROLLER:** A roller to transfer and meter fountain solution to maintain hydrophilic properties.
- 234 **NEWSPRINT:** Uncoated paper used mainly for printing newspapers, flyers, and other printed materials intended for mass distribution.
- 235 **NONCOMPLIANT MATERIAL:** A material that:
- 235.1 exceeds the VOC content limits specified in Section 301, and is not exempt pursuant to Section 110, and does not use an alternative compliance option pursuant to Rule 107, ALTERNATIVE COMPLIANCE, and does not use emission control equipment pursuant to Section 303; or
 - 235.2 exceeds the VOC content limit and/or composite vapor pressure limit, as applicable, in Section 302.1, and does not use an alternative compliance option pursuant to Rule 107, ALTERNATIVE COMPLIANCE, and does not use emission control equipment pursuant to Section 303.
- 236 **NON-HEATSET INK:** An ink that sets and dries by absorption into the substrates, and hardens by ambient air oxidation that may be accelerated by the use of infrared light sources.

For purpose of this definition ultraviolet and electron-beam curable inks are examples of non-heatset inks.

- 237 **NON-POROUS SUBSTRATE:** Any substrate whose surface prevents penetration by water, including but not limited to foil, polyethylene, polypropylene, cellophane, paper or paperboard coated with a non-porous surface, metallized polyester, nylon and polyethylene terephthalate (mylar). Clay-coated printing paper as defined by the American Paper Institute Classification System and paperboard coated with clay to prevent water penetration shall be considered a non-porous substrate.
- 238 **OFFSET PRINTING:** A lithographic printing operation in which the image area is transferred, or offset, to another surface, and then printed onto the substrate.
- 239 **ON-PRESS COMPONENT:** A part, component, or accessory of a press that is cleaned while still being physically attached to the press, including fountains, impression cylinders, blankets, rollers, metering rollers and printing plates.
- 240 **OVERLAY:** A screen printed product made of polycarbonate, polyester, or clear vinyl plastic substrate which activates the circuitry on an electronic circuit underneath it when pressed against the electronic circuit. Overlays and electronic circuits are used in membrane switches of products such as computer keyboards, calculators, control panels, and home appliances.
- 241 **POTENTIAL TO EMIT:** The maximum physical and operational design capacity to emit a pollutant. Limitations on the physical or operational design capacity, including emissions control devices and limitations on hours of operation, may be considered only if such limitations are incorporated into the applicable Authority to Construct and Permit to Operate. The potential to emit shall include both directly emitted and fugitive emissions.
- 242 **PREPRESS OPERATIONS:** Operations associated with printing plate making using film photo processors and plate photo processors.
- 243 **PRINTING:** Any graphic arts operation that imparts color, design, alphabet, or numerals on a substrate.
- 244 **PRINTING INK:** A pigmented fluid or viscous material used in printing.
- 245 **PROOF PRESS:** A press used exclusively to check the quality of print, color reproduction, and editorial content.
- 246 **REFRIGERATED CHILLER:** A device that continuously maintains and supplies fountain solution to a holding tray at a temperature of 55 degrees Fahrenheit or less measured at the supply tank, thereby reducing evaporative emissions of VOCs in fountain solution.
- 247 **REMOVABLE PRESS COMPONENT:** A part, component, or accessory of a press that is physically attached to the press but is disassembled and removed from the press prior to being cleaned. Fountains, impression cylinders, blankets, rollers, metering rollers, and printing plates shall not be considered as removable press components.
- 248 **REPAIR CLEANING:** Cleaning of equipment parts as part of a repair operation or as part of a scheduled maintenance procedure during which the parts are not removed from the equipment and power to the printing equipment has been turned off and secured.
- 249 **SCREEN PRINTING:** A printing operation in which the printing ink passes through a web or a fabric to which a refined form of stencil has been applied. The stencil openings determine the form and dimensions of the imprint.
- 250 **SIGN INK/COATING:** A printing ink or coating used in screen printing indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.

- 251 **SOLVENT CLEANING:** The removal of loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants including, but not limited to, dirt, soil, and grease from equipment, substrate, and general work areas.
- 252 **SPECIALTY FLEXOGRAPHIC PRINTING:** Flexographic printing on polyethylene, polyester and foil substrates for food packaging, health care products, fertilizer bags, or liquid-tight containers.
- 253 **STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission.
- 253.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- a. Belong to the same industrial grouping, and
 - b. Are located on one property, or two or more contiguous properties, and
 - c. Are under the same or common ownership, operation, or control, or which are owned or operated by entities which are under common control.
- 253.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- a. They belong to the same two-digit Standard Industrial Classification (SIC) code, or
 - b. They are part of a common production process, which includes industrial processes, manufacturing processes and any connected processes involving a common material.
- 254 **STRIPPING:** The removal of cured inks, cured coatings, or cured adhesives.
- 255 **SUBSTRATE:** The surface to which a printed image is applied. Substrates include, but are not limited to, paper, plastic, metal, wood, ceramic, and fabric.
- 256 **ULTRAVIOLET INK:** Ink which dries by polymerization reaction induced by ultraviolet energy.
- 257 **VACUUM-FORMING:** A process which imparts a desired shape to a printed object by subjecting the screen printed area of the object to a vacuum.
- 258 **VOC COMPOSITE PARTIAL PRESSURE:** The sum of the partial pressures of the compounds defined as VOCs. VOC composite partial pressure is calculated pursuant to Section 403.
- 259 **VOLATILE ORGANIC COMPOUND (VOC):** A volatile organic compound has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 260 **VOLATILE ORGANIC COMPOUND (VOC) AS APPLIED:** A VOC as applied means the VOC content of the material as applied including thinners, reducers, hardeners, retarders, catalysts and additives calculated pursuant to Section 502.1.
- 261 **VOLATILE ORGANIC COMPOUND (VOC) AS SUPPLIED:** A VOC as supplied means the VOC content of the original material as supplied by the manufacturer calculated pursuant to Section 502.1.
- 262 **WATER SLIDE DECALS:** Decals which are screen printed onto treated paper stock, and are removable from the stock by the dissolution of an underlying, water-soluble adhesive or a similar carrier.
- 263 **WEB:** A continuous sheet of substrate that is printed on web-fed printing presses.
- 264 **WEB-FED:** An automatic system on a printing press which supplies a web substrate for printing from a continuous roll or web or from an extrusion conversion process.

265 **WIPE CLEANING:** The method of cleaning a surface by physically rubbing the surface with a material such as a rag, paper, or a sponge moistened with a solvent.

300 STANDARDS

301 **VOC CONTENT LIMITS FOR MATERIALS USED IN GRAPHIC ARTS OPERATIONS:** Except for graphic arts operations exempt pursuant to Section 110, no person shall apply any material with a VOC content in excess of the limits specified below. The VOC content of the material as applied shall be determined pursuant to Section 502.1.

301.1 VOC Content for Inks, Coatings, and Adhesives:

MATERIAL TYPE	VOC CONTENT g/l (lb/gal) Less water and exempt compounds
General Printing Ink Adhesive Coating	300 (2.5) 150 (1.25) 300 (2.5)
Screen Printing Printing Ink Adhesive Coating Electronic Circuit Extreme Performance Ink/Coating Metallic Ink Sign Ink/Coating Mechanically Formed Products Overlays Web-Fed Wallpaper Water Slide Decals	400 (3.3) 150 (1.25) 400 (3.3) 800 (6.7) 800 (6.7) 400 (3.3) 500 (4.1) 800 (6.7) 800 (6.7) 300 (2.5) 800 (6.7)

301.2 **VOC Content for Fountain Solution Materials:**

MATERIAL TYPE	VOC Content Limits Including Water And Exempt Compounds	
	Current Limits (g/l) (The specified limits remain in effect until limits are replaced by limits listed in the subsequent column.)	Effective 10/23/2009 (% By Weight)
Heatset Web Offset Lithography		
Fountain Solutions Containing Alcohol		
1. Chilled Using Refrigerated Chiller	100	3
2. Non-Chilled	80	1.6
Fountain Solutions Containing No Alcohol		
1. Chilled Using Refrigerated Chiller	100	5
2. Non-Chilled	80	5
Coldset Web Offset Lithography		
Fountain Solutions Containing Alcohol		
1. Chilled Using Refrigerated Chiller	100	See Section 301.4
2. Non-Chilled	80	See Section 301.4
Fountain Solutions Containing No Alcohol		
1. Chilled Using Refrigerated Chiller	100	5
2. Non-Chilled	80	5
Sheet-fed Offset Lithography with maximum sheet size greater than 11 X 17 inches or total solution reservoir greater than 1 gallon		
Fountain Solutions Containing Alcohol		
1. Chilled Using Refrigerated Chiller	100	8.5
2. Non-Chilled	80	5
Fountain Solutions Containing No Alcohol		
1. Chilled Using Refrigerated Chiller	100	5
2. Non-Chilled	80	5
All Other Presses (includes offset lithographic presses exempt pursuant to Section 110.9)		
1. Chilled Using Refrigerated Chiller	100	10
2. Non-Chilled	80	8

301.3 **Temperature Gauge Requirements Refrigerated Chiller.** The refrigerated chiller shall be equipped with a temperature gauge. The temperature of the fountain solution shall be maintained at 55 °F or less.

301.4 **Coldset Web Offset Lithography:** Effective October 23, 2009, fountain solutions containing alcohol shall not be used in coldset web offset lithography printing operations.

302 **CLEANING AND STORAGE REQUIREMENTS:** Any person owning or operating a graphic arts operation shall comply with the following requirements:

- 302.1 Materials used for solvent cleaning shall not exceed the limits specified in the table below. The VOC content of the material as applied shall be determined pursuant to Section 502.1. The composite partial pressure shall be determined using Section 502.6. Effective January 1, 2011, composite partial vapor pressure is no longer a compliance standard for blanket and roller washes (other than newsprint substrates), the cleaning of on-press components (other than newsprint substrates), the cleaning of screen printing application equipment, and the cleaning of ultraviolet/electron beam ink application equipment. Effective October 23, 2009, composite partial vapor pressure is no longer a compliance standard for the other cleaning material types specified in the table below.

Material Type	Current Limits (The specified limits remain in effect until limits are replaced by limits listed in subsequent columns.)			Effective 10/23/2009	Effective 1/1/2011
	VOC Content g/l (lb/gal) Including Water and Exempt Compounds		VOC Composite Partial Pressure Millimeters of Mercury at 20 °C (68 °F)	VOC Content g/l (lb/gal) Including Water and Exempt Compounds	VOC Content g/l (lb/gal) Including Water and Exempt Compounds
General (e.g., maintenance, repair, solvent, wipe) Cleaning	72 (0.60)			25 (0.21)	
Application Equipment Cleaning					
General (not specifically listed below)	100 (0.83)	AND	3	25 (0.21)	
Lithographic and Letter Press Printing					
Newsprint substrates					
On-Press Components					
Metering Rollers/Printing Plates	300 (2.5)	OR	25	100 (0.83)	
Blanket and Roller Washes and All Other On-Press Components	300 (2.5)	OR	10	100 (0.83)	
Removable Press Components	100 (0.83)	AND	3	25 (0.21)	
Substrates other than newsprint					
On-Press Components					
Metering Rollers/Printing Plates	300 (2.5)	OR	25		100 (0.83)
Blanket and Roller Washes and All Other On-Press Components	300 (2.5)	OR	10		100 (0.83)
Removable Press Components	100 (0.83)	AND	3	25 (0.21)	
Screen Printing	300 (2.5)	OR	10		100 (0.83)
Flexographic Printing	100 (0.83)	AND	3	25 (0.21)	
Specialty Flexographic Printing	810 (6.8)	AND	21	100 (0.83)	
Ultraviolet/Electron Beam Inks (Except Screen Printing)	800 (6.7)	AND	33	650 (5.4)	100 (0.83)

- 302.2 **Lithographic and Letter Press Printing, Cleaning of Metering Rollers and Printing Plates:** Prior to January 1, 2011, the total monthly usage of materials used to clean metering rollers and printing plates (for newsprint as well as other substrates) shall not exceed 15 percent (by volume) of the total monthly usage of Blanket and Roller Washes (for newsprint as well as other substrates), except as

noted in Section 110.8. The percentage of the materials used for cleaning metering rollers and printing plates shall be calculated as follows:

$$\% Usage = \frac{G}{Y} * 100\%$$

Where: G = Total usage of the materials used to clean metering rollers and printing plates in Lithographic and Letter Press Printing (gal/month), excluding presses exempt pursuant to Section 110.8

Y = Total usage of Blanket and Roller Washes in Lithographic and Letter Press Printing (gal/month), excluding presses exempt pursuant to Section 110.8

- 302.3 Closed containers shall be used for the disposal of all VOC-containing cloth, sponges, papers, or other materials used for solvent cleaning.
- 302.4 All VOC-materials shall be stored in closed containers when not in use.

303 **REQUIRED EMISSIONS CONTROL EQUIPMENT:**

303.1 **Heatset Web Offset Lithographic Printing and Heatset Web Letterpress Printing:** Effective October 23, 2009, except for graphic arts operations exempt pursuant to Section 110.10, a person shall reduce emissions of VOC from the drying oven using air pollution control equipment that satisfies the following:

- a. The air pollution control equipment is approved by the Air Pollution Control Officer, pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS, and
- b. The air pollution control equipment is designed and operated with an overall system efficiency, as determined by Section 408, that satisfies one of the following conditions, whichever is applicable:
 1. 90% overall efficiency if the permit application is deemed complete prior to October 23, 2008.
 2. 95% overall efficiency if the permit application is deemed complete on or after October 23, 2008.
- c. As an alternative to Section 303.1(b), the mass concentration at the outlet of the air pollution control equipment, determined pursuant to Section 502.4, is less than or equal to 20 ppmv as hexane on a dry basis.

303.2 **Flexible Package Printing Inks, Coatings, and Adhesives:** Effective October 23, 2009, except for graphic arts operations exempt pursuant to Section 110.11, a person shall reduce emissions of VOC from flexible package printing inks, coatings, and adhesives using air pollution control equipment that satisfies the following:

- a. The air pollution control equipment is approved by the Air Pollution Control Officer, pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS, and
- b. The air pollution control equipment is designed and operated with an overall system efficiency, as determined by Section 408, that satisfies the following conditions:
 1. 70% overall efficiency for a press that was first installed prior to March 14, 1995.
 2. 80% overall efficiency for a press that was first installed on or after March 14, 1995.

304 **ALTERNATIVE EMISSIONS CONTROL EQUIPMENT:** As an alternative to Sections 301 and 302.1, a person may use air pollution control equipment provided it satisfies the following:

- 304.1 The air pollution control equipment is approved by the Air Pollution Control Officer pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS, and
- 304.2 The air pollution control equipment is designed and operated with an overall system efficiency, as determined by Section 408, of not less than 67%.

305 **PROHIBITION OF SALE:** A person shall not supply, sell, solicit, or offer for sale, any

noncompliant material as defined in Section 235 for use in graphic arts operations. The prohibition in this section shall apply to any graphic arts material which will be applied at any physical location within the District.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **OPERATION AND MAINTENANCE PLAN:** Any person using an approved emission control device pursuant to Section 303 as a means of complying with this rule (as provided in Section 301) must submit an Operation and Maintenance Plan for the emission control device to the Air Pollution Control Officer for approval, along with the application for Authority to Construct, required by Rule 201, General Permit Requirements. The Plan shall specify key system operating parameters, such as temperatures, pressures, and/or flow rates, necessary to determine compliance with this rule and shall describe in detail procedures to maintain the approved emission control device. The Plan shall also specify which records must be kept to document these operations and maintenance procedures. These records shall comply with the requirements of Sections 501.4 and 501.5. The Plan shall be implemented upon approval of the Air Pollution Control Officer.
- 402 **PRODUCT INFORMATION REQUIREMENTS FOR SELLERS:** Any person who sells any material subject to this rule shall make available to the purchaser at the time of sale the following information:
- 402.1 The material type by name/code/manufacturer;
- 402.2 **For materials subject to Section 301.1:** The maximum VOC content of the material (adhesive, ink, and coating), as supplied. The VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), excluding water and exempt compounds;
- 402.3 **For materials subject to Section 301.2:** The maximum VOC content of the fountain solution, as supplied. The VOC content shall be displayed as grams per liter of material (or pounds of VOC per gallon), including water and exempt compounds as determined pursuant to Section 502.1;
- 402.4 **For materials subject to Section 302.1:**
- The maximum VOC content as supplied. The VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), including water and exempt compounds as determined pursuant to Section 502.1;
 - Prior to January 1, 2011, the total VOC composite partial pressure of the material as supplied. The composite vapor pressure shall be displayed in millimeters of mercury at 20 °C (68 °F) as determined pursuant to Section 502.6; and
- 402.5 **For all materials subject to Sections 301 and 302.1:** Recommendations regarding thinning, reducing, or mixing with any material.
- 403 **CALCULATION FOR DETERMINING VOC COMPOSITE PARTIAL PRESSURE:** VOC composite partial pressure shall be calculated by the following equation:

$$PP_c = \frac{\sum_{i=1}^n \frac{(W_i)(VP_i)}{MW_i}}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

- Where: PP_c = VOC composite partial pressure at 20 °C, in mm Hg.
 W_i = Weight of the "i"th VOC compound/, in grams, as determined by ASTM E 260-96 (2006).
 W_w = Weight of water, in grams as determined by ASTM D 3792-05.
 W_e = Weight of the "e"th exempt compound, in grams, as determined by ASTM E 260-96 (2006).

MW_i	=	Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.
MW_w	=	Molecular weight of water, 18 grams per g-mole.
MW_e	=	Molecular weight of the "e"th exempt compound, in grams per g-mole, as given in chemical reference literature.
VP_i	=	Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg, as determined by Section 502.7 of this rule.

- 404 **CALCULATION FOR DETERMINING VOC CONTENT OF MATERIAL EXCLUDING WATER AND EXEMPT COMPOUNDS:** For the VOC content as applied, the volume of material is defined as the volume of the original material plus any material (e.g., thinners, reducers, or catalysts) added to the original material. For the VOC content as supplied, the volume of material is defined as the volume of the original material. The weight of VOC per combined volume of VOC and material solids shall be calculated by the following equation:

$$G_1 = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where: G_1	=	Weight of VOC per volume of material, less water and exempt compounds, in grams per liter
W_v	=	Weight of all volatile compounds, including any volatile materials added to the original material supplied by the manufacturer when calculating the VOC content as applied, in grams
W_w	=	Weight of water, in grams
W_{ec}	=	Weight of exempt compounds, in grams
V_m	=	Volume of material, in liters
V_w	=	Volume of water, in liters
V_{ec}	=	Volume of exempt compounds, in liters

- 405 **CALCULATION FOR DETERMINING VOC CONTENT OF MATERIAL INCLUDING WATER AND EXEMPT COMPOUNDS:** For the VOC content as applied, the volume of material is defined as the volume of the original material, plus any material added to the original material (e.g., thinners or reducers). For the VOC content as supplied, the volume of material is defined as the volume of the original material. The weight of VOC per total volume of material shall be calculated by the following equation:

$$G_2 = \frac{W_v - W_w - W_{ec}}{V_m}$$

Where: G_2	=	Weight of VOC per total volume of material, in grams per liter
W_v	=	Weight of all volatile compounds, in grams
W_w	=	Weight of water, in grams
W_{ec}	=	Weight of exempt compounds, in grams
V_m	=	Volume of material, in liters

- 406 **CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the VOC mass concentration and volumetric flowrate, pursuant to Section 502.4 and the following equations:

406.1 **VOC Mass Emission Rate:**

$$M = (Q) * (C) * (60 \frac{m}{hr}) \text{ (calculated upstream and downstream)}$$

Where: M	=	VOC mass emission rate (upstream/downstream), in lb/hr.
Q	=	the volumetric flowrate at the inlet (upstream) or exhaust stack outlet (downstream), in standard cubic feet per minute as determined by Section 502.4.

C = the VOC mass concentration at the inlet (upstream) or outlet (downstream), in pounds per standard cubic feet, as determined pursuant to Section 502.4.

406.2 **The percent control efficiency is calculated as follows:**

$$\%CE = \left(\frac{M_u - M_d}{M_u} \right) * 100$$

Where: CE = control efficiency.
 M_u = the upstream VOC mass emission rate, in lb/hr.
 M_d = the downstream VOC mass emission rate, in lb/hr.

407 **CALCULATION FOR DETERMINING VOC EMISSIONS FOR STATIONARY SOURCES INCLUDING THOSE EXEMPT PURSUANT TO SECTION 110.1:**

407.1 The total VOC emissions from materials shall be determined as follows:

$$E = \sum (E_1 + E_2)$$

407.2 **VOC Emissions from Ink Usage:**

$$E_1 = U_1 * P_1 * (1 - R)$$

Where: E_1 = VOC emissions from ink usage (lbs-VOCs/month)
 U_1 = ink usage as applied (gallons/month). This equals the ink usage in pounds per month divided by the density of the ink.
 P_1 = VOC content (lbs-VOC/gallon), applied as, determined pursuant to Section 502.1
 R = ink retention factor (20% for heat-set lithographic printing, 95% for non-heat set lithographic printing, and 0% for all other printing operations)

407.3 **VOC Emissions from Materials (Except Inks) Usages:**

$$E_2 = \sum_{i=1}^n (U_i) * (V_i)$$

Where E_2 = VOC emissions from materials (except inks) used (lbs-VOCs/month)
 U_i = material usage, as applied, (gallons/month)
 V_i = VOC content in the material (lbs-VOC/gal), as applied, as determined pursuant to Section 502.1

408 **CALCULATION FOR DETERMINING OVERALL SYSTEM EFFICIENCY:** To verify compliance with Sections 303 and 304, the overall system efficiency is calculated as follows:

$$\%SE = [\%CLE \times \%CE] / 100$$

Where: SE = system efficiency.
 CLE = collection efficiency, as determined by Section 502.5
 CE = control efficiency, as determined by Sections 406 and 502.4

500 **MONITORING AND RECORDS**

501 **RECORDKEEPING:** In addition to any existing permit conditions issued pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS, any person subject to this rule, including

operations claiming exemption under Section 110.1, shall comply with the following requirements:

- 501.1 **List of Materials:** A list shall be maintained of all materials currently used and/or stored at the site. The list shall include the following information:
- a. Material type (e.g., adhesive, coating, ink, fountain solution, extreme performance ink/coating, or cleanup solvent) by name/code/manufacturer and the appropriate material type category as designated in Sections 301 and 302.1 as applicable.
 - b. The actual VOC content of the materials (e.g., adhesive, coating, or ink) listed in Section 301.1, as applied excluding water and exempt compounds.
 - c. The actual VOC content of the fountain solution listed in Section 301.2 as applied including water and exempt compounds in grams per liter or pounds per gallon. The VOC content as provided by the manufacturer may be acceptable if the fountain solution is used as supplied.
 - d. The actual VOC content of the cleaning materials listed in Section 302.1, as applied including water and exempt compounds in grams per liter or pounds per gallon.
 - e. The VOC composite partial pressure for materials listed in Section 302.1 if applicable. The composite partial pressure shall be calculated pursuant to Sections 403 and 502.6.
 - f. The actual mixing ratio used for the material, as applied.
 - g. For inks, the density of the ink in lbs/gallon.
 - h. For aerosol adhesives exempt pursuant to Section 110.5, records of VOC content in the aerosol adhesive. The VOC content shall be recorded as percent by weight. The record shall also include the type of operation (i.e., substrate, purpose) for which the aerosol adhesive is used.
 - i. For screen printing, the substrate to which the material is applied.
 - j. For extreme performance ink/coating, indicate what the material is intended to resist or withstand and what substrate it is intended to be applied to.
 - k. Identification of each material type exceeding the VOC limits specified in Sections 301 and 302.1 or the composite vapor pressure specified in Section 302.1.
- 501.2 **Product Information:** The information listed under Section 402.1 through 402.5 shall be maintained on-site and made available to the Air Pollution Control Officer upon request.
- 501.3 **Usage Records:** Any person within the District using materials regulated by this rule shall update and maintain the records as required by this rule as follows:
- a. **Daily:**
 1. **For noncompliant materials:** Records regarding the use, including the lack of use, of each material type by name/code/ and the total applied volume in gallons or weight in pounds (weight allowed for ink only) of each material.
 - b. **Monthly:**
 1. Records of total applied volume in gallons or weight in pounds (weight allowed for ink only) for each material (including thinners, reducers, hardeners, retarders, catalysts, fountain solutions and cleaning materials), specified by material type as listed in Sections 301 and 302.1.
 2. Effective October 23, 2009 and expiring on January 1, 2011, except for presses exempt pursuant to Section 110.8, usage records shall differentiate between materials used for printing on newsprint and materials used for printing on other substrates.
 3. For graphic arts operations exempt pursuant to Sections 110.1 or 110.6, records of total VOC emissions from all materials (including thinners, reducers, hardeners, retarders, and catalysts) used for each calendar month in pounds. The records shall be determined using emission calculations specified in Section 407.

4. Records of total applied volume for each material exceeding the VOC limits specified in Sections 301 and 302.1 by name/code/manufacturer and material type.
 5. Prior to January 1, 2011, except for presses exempt pursuant to Section 110.8, records showing the percentage of materials used for cleaning metering rollers and printing plates (for newsprint as well as other substrates) in Lithographic and Letter Press Printing, as calculated pursuant to Section 302.2.
 6. **Extreme Performance Ink/Coating:** Records of applied volume in gallon or by weight in pounds (weight allowed for ink only), what the material is used to resist or withstand, and what substrate it was applied to.
- 501.4 **Control Equipment:** Any person using an emission control device pursuant to Section 303 as a means of complying with this rule shall maintain:
- a. On a daily basis:
 1. Such records as required by the Operation and Maintenance Plan in Section 401; and
 2. Records of applied volume in gallon or by weight in pounds (weight allowed for ink only); and
 - b. Records of test reports conducted pursuant to Section 502.
- 501.5 **Duration of Records:** Such records shall be maintained on-site for five years and made available for review by the Air Pollution Control Officer upon request.

502 TEST METHODS

- 502.1 **DETERMINATION OF VOC CONTENT:** VOC content of the material (except as provided for in Section 502.2), as applied, shall be determined in accordance with EPA Method 24, Section 404, and Section 502.3 if less water and exempt compounds or with EPA Method 24 and Section 405 if including water and exempt compounds.
- 502.2 **ANALYSIS OF SAMPLES, NON-HEATSET POLYMERIZING LITHOGRAPHIC OR LETTERPRESS INKS:** Measurement of the volatile content shall be made in accordance with EPA Method 24. All components of the sample must be weighed in the proper proportion into the analysis container and mixed together, with the mixture then being allowed to stand for at least one hour, but no more than 24 hours, prior to being oven-dried at 110 degrees C for 1 hour.
- 502.3 **DETERMINATION OF COMPOUNDS EXEMPT FROM VOC DEFINITION:** Compounds exempt pursuant to Section 215, shall be determined in accordance with ASTM D4457-02 (2008) or ARB Method 432. If any of the perfluorocarbons are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.
- 502.4 **DETERMINATION OF CONTROL EFFICIENCY:** Control efficiency of control equipment shall be determined in accordance with applicable EPA Methods 18, 25, 25A, EPA Method 2 or 2C; and Section 406.
- 502.5 **DETERMINATION OF COLLECTION EFFICIENCY:** Collection efficiency shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:
- a. Applicable EPA Methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or
 - b. Any other method approved by U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 502.6 **DETERMINATION OF VOC COMPOSITE PARTIAL PRESSURE:** VOC composite partial pressure shall be determined in accordance with Section 403 and Section 502.7.

- 502.7 **DETERMINATION OF VAPOR PRESSURE:** Vapor pressure of a VOC shall be determined in accordance with ASTM Method D2879-97 (2007), or may be obtained from the most current edition of a published source, including, but not limited to:
- a. *The Vapor Pressure of Pure Substances*, Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York.
 - b. *Perry's Chemical Engineer's Handbook*, McGraw-Hill Book Company.
 - c. *CRC Handbook of Chemistry and Physics*, Chemical Rubber Publishing Company.
 - d. *Lange's Handbook of Chemistry*, John Dean, editor, McGraw-Hill Book Company.
- Notwithstanding the provisions of this section, the Air Pollution Control Officer may require the use of a vapor pressure determined in accordance with ASTM Method D2879-97 (2007) for determining compliance with this rule.
- 502.8 **DETERMINATION OF METAL CONTENT IN INKS:** The metal content of metallic inks shall be determined in accordance with the South Coast Air Quality Management District's Method 318, "Determination of Weight Percent Elemental Metals in Coatings by X-ray Diffraction". Use of this method for determining the content of metals other than aluminum in metallic inks shall be subject to approval by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 502.9 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

RULE 451 SURFACE COATING OF MISCELLANEOUS METAL PARTS AND PRODUCTS

Adopted 6-19-79

(Amended 1-11-80, 12-14-82, 4-5-83, 11-29-83, 8-27-85, 9-29-87, 2-23-93, 9-5-96, 10-02-97, 9-25-08, 10-28-10)

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100 GENERAL

- 101 **PURPOSE:** To limit the emission of volatile organic compounds from the application of coatings, coating removers (strippers), surface preparation material, and cleanup material to miscellaneous metal parts and products in a shop environment.
- 102 **APPLICABILITY:** The provisions of this rule shall apply to any person who uses, applies, or solicits the use or application of any miscellaneous metal parts and products coating, coating remover (stripper), surface preparation material, and cleanup material within the District. Only the provisions in Sections 402, 403, 404, and 502 apply to persons who supply, sell, offer for sale, manufacture, or distribute any miscellaneous metal parts and products coating, coating remover (stripper), surface preparation material, and cleanup material for use within the District. The requirements of Rule 441, ORGANIC SOLVENTS, shall not apply to persons using miscellaneous metal parts and products coatings, coating removers (strippers), surface preparation material, and cleanup material subject to this rule.
- 103 **SEVERABILITY:** If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.
- 110 **EXEMPTION, LOW USAGE OF MATERIALS EXCEEDING VOC CONTENT LIMITS:** The requirements of Section 301, 303, 305.3, and 305.4 shall not apply to the use of materials exceeding the VOC content limits specified in Sections 301, 303, 305.3, and 305.4 in a total volume less than 55 gallons per calendar year, per stationary source, provided the requirements in Section 401 and 501 are satisfied.
- 111 **EXEMPTION, OPERATIONS SUBJECT TO OTHER DISTRICT RULES:** The provisions of this rule do not apply to coatings, coating removers (strippers), surface preparation material, and cleanup material specifically subject to the requirements under the following rules:
111.1 Rule 442 – ARCHITECTURAL COATINGS;
111.2 Rule 459 – AUTOMOTIVE, TRUCK AND HEAVY EQUIPMENT REFINISHING OPERATIONS;
111.3 Rule 456 – AEROSPACE ASSEMBLY AND COMPONENT COATING OPERATIONS;
111.4 Rule 452 – CAN COATING;
111.5 Rule 460 – ADHESIVES AND SEALANTS; and
- 112 **EXEMPTION, SPECIFIC OPERATIONS AND COATINGS:** Except for Sections 305.1, 305.2, 305.5, and 501, the requirements of Sections 300, 400, and 500 shall not apply to:
112.1 Magnetic data storage discs.
112.2 Safety-indicating coatings.
112.3 Stencil coatings.
112.4 Any coating applied exclusively by hand lettering.
- 113 **EXEMPTION, AEROSOL CONTAINERS:** The requirements of this rule shall not apply to coatings and coating removers (strippers) sold in non-refillable aerosol containers having a capacity of one liter (1.1 quarts) or less.
- 114 **EXEMPTION, APPLICATION EQUIPMENT:** The requirements of Section 304 shall not apply to the following:
114.1 Touch-up coating and repair coating operations.
114.2 The application of texture coatings.

115 **EXEMPTION, COATINGS FOR METAL FURNITURE:** The requirements of Section 302 shall not apply to metal furniture coating operations at a stationary source with actual emissions from such operations less than 3 tons of VOC per 12-month rolling period prior to emissions control equipment, provided that such operations comply with the requirements of Section 301.

116 **EXEMPTION, AUTOMOBILE AND LIGHT-DUTY TRUCK ASSEMBLY COATING OPERATIONS:** The requirements of this rule shall not apply to automobile and light-duty truck assembly coating operations.

200 DEFINITIONS

201 **ADHESIVE:** Any substance that is used to bond one surface to another surface by attachment.

202 **AEROSOL CONTAINER:** A hand-held, non-refillable container which expels pressurized product ingredients by means of a propellant-induced force.

203 **AIR-DRIED COATING:** Any coating which is not heated above 90°C (194°F) for the purpose of curing or drying.

204 **ALUMINUM COATING FOR WINDOW FRAMES AND DOOR FRAMES:** A coating which is applied in a shop environment and is used to protect prefabricated aluminum window frames, window walls, and door frames and which is required to meet the specifications of Architectural Aluminum Manufacturers Association AAMA 605.2-1980.

205 **APPLICATION EQUIPMENT:** A device used to apply coatings or used in preparing a coating material such as stir sticks or funnels.

206 **APPURTENANCES:** Accessories to a stationary structure, including, but not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain-gutters and down-spouts, window screens, lamp-posts, heating and air conditioning equipment, other mechanical equipment, large fixed stationary tools and concrete forms.

207 **AUTOMOBILE:** A motor vehicle designed to carry up to eight passengers, excluding vans, sport utility vehicles, and motor vehicles designed primarily to transport light loads of property.

208 **AUTOMOBILE AND LIGHT-DUTY TRUCK ASSEMBLY COATING OPERATIONS:** A coating operation that includes the coatings of new automobile or new light-duty truck bodies, or body parts for new automobiles or new light-duty trucks and other parts that are coated along with these bodies or body parts at a facility where new automobiles or new light-duty trucks are completely assembled.

209 **BAKED COATING:** Any coating which is heated above 90°C (194°F) for the purpose of curing or drying.

210 **CAMOUFLAGE COATING:** A coating applied as a topcoat on equipment to conceal such equipment from detection.

211 **CLEANUP MATERIAL:** A VOC-containing material used to clean parts and application equipment used in miscellaneous metal parts and products coating operations.

212 **CLOSED CONTAINER:** A container which has a cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.

- 213 **COATING:** A material applied to a surface to identify, beautify, protect, convey a message, or minimize detection of such surface.
- 214 **COATING REMOVER (STRIPPER):** A material applied to the surface of any miscellaneous metal part or product to completely remove coatings (including mask coatings) or coating residues. A coating remover (stripper) is not a surface preparation material or cleanup material. Material used for the removal of overspray is not considered a coating remover.
- 215 **DIP COAT:** A coating method which is applied by dipping an object into a vat of coating material and allowing any excess coating material to drain off.
- 216 **ELECTRICAL INSULATING COATING:** A non-convertible-type coating applied to electric motors, components of electric motors, or power transformers to provide electrical, mechanical, and environmental protection or resistance.
- 217 **ELECTROSTATIC SPRAY:** The spray application of coatings where an electrostatic potential is created between the part to be coated and the coating particles.
- 218 **END USER:** Any person applying any coating, coating remover (stripper), surface preparation material, or cleanup material subject to this rule.
- 219 **ETCHING FILLER:** A coating which contains at least ½ percent acid by weight, as determined by the method specified in Section 502.2, and less than 23 percent solids by weight, as determined by the method specified in Section 502.7, and is used instead of applying a pretreatment wash primer followed by a primer.
- 220 **EXEMPT COMPOUND:** For the purposes of this rule, “exempt compound” has the same meaning as in Rule 101-GENERAL PROVISIONS AND DEFINITIONS.
- 221 **EXTREME HIGH GLOSS COATING:** A coating which, when tested by American Society for Testing Materials test method D-523 adopted in 2008, shows at least 75% reflectance on a 60° meter.
- 222 **EXTREME PERFORMANCE COATING:** A coating that is used on a metal surface where the coated surface, in it's intended use, is acutely or chronically exposed to salt water, corrosives, caustics, acids, oxidizing agents, wind or ocean driven debris or electromagnetic pulse.
- 223 **FLOW COAT:** A coating method which is applied by flowing a stream of coating over an object and allowing any excess coating material to drain off.
- 224 **HAND APPLICATION EQUIPMENT:** Manually held equipment such as brushes, rollers, trowels, spatulas, daubers, rags, sponges, and mechanically or pneumatically driven syringes that do not atomize the applied products.
- 225 **HAND LETTERING:** A method utilizing hand application equipment to add letters and/or numbers on a substrate.
- 226 **HEAT RESISTANT COATING:** A coating used on a metal surface where the coated surface must withstand a temperature of at least 400 °F during normal use.
- 227 **HIGH-VOLUME LOW-PRESSURE APPLICATION EQUIPMENT:** Equipment used to apply coatings by means of a gun which is designed to be operated and which is operated between 0.1 and 10 psig air pressure measured dynamically at the center of the air cap and at the air horns.

- 228 **LOW-VOLUME LOW-PRESSURE APPLICATION EQUIPMENT:** Spray coating application equipment with air pressure between 0.1 and 10.0 pounds per square inch gauge (psig) and air volume less than 15.5 cfm per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 229 **LIGHT-DUTY TRUCK:** A van, sport utility vehicle, or motor vehicle designed to transport light loads of property with gross vehicle weight rating of 8,500 pounds or less.
- 230 **MAGNETIC DATA STORAGE DISC:** A flat film or plate with a magnetic coating on which digital information can be stored by selective magnetization of portions of the flat surface.
- 231 **MASK COATING:** A thin film coating applied through a template to coat a small portion of the substrate.
- 232 **METAL FURNITURE:** Furniture and components of furniture including, but not limited to, the following types of products: household, office, institutional, laboratory, hospital, public building, restaurant, barber and beauty shop, and dental furniture; and office and store fixtures, partitions, shelving, lockers, lamps and lighting fixtures, and wastebaskets.
- 233 **METALLIC/IRIDESCENT COATING:** Any coating which contains more than 5.0 g/l (0.042 lb/gal) of metal or iridescent particles, as applied, where such particles are visible in the dried film.
- 234 **MISCELLANEOUS METAL PARTS AND PRODUCTS:** Any metal parts and products except for those specified in Sections 111, 112, and 116.
- 235 **MULTI-COMPONENT COATING:** A coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to form an acceptable dry film.
- 236 **NON-COMPLIANT MATERIAL:** A coating, coating remover, cleanup material, or surface preparation material that exceeds the VOC content limits specified in Section 301, 303, 305.3, or 305.4 and the usage is in excess of allowable volumes per Section 110.
- 237 **NON-SKID COATING:** Any coating which has, as its primary purpose, the creation of traction to prevent slippage. (This definition will sunset on April 28, 2011).
- 238 **PREFABRICATED ARCHITECTURAL COMPONENT:** Prefabricated metal parts and products which are to be used as architectural appurtenances or structures and which are coated in a shop environment, not including window frames and door frames.
- 239 **PRETREATMENT WASH PRIMER:** A coating which contains at least ½ percent acid by weight, as determined by the method specified in Section 502.2, and no more than 12 percent solids by weight, as determined by the method specified in Section 502.7, and is applied directly to metal surfaces to provide surface etching and corrosion resistance or adhesion of subsequent coatings. A Pretreatment Wash Primer is not a Surface Preparation Material as defined in Section 248.
- 240 **REPAIR COATING:** A coating used to recoat portions of a previously coated part or product which has sustained mechanical damage to the coating following normal coating operations.
- 241 **ROLL COATER:** A series of mechanical rollers that forms a thin coating film on the surface of the roller, which is applied to a substrate by moving the substrate underneath the roller.
- 242 **SAFETY-INDICATING COATING:** A coating which is designed to have a color change when it is exposed to an unsafe condition such as a high temperature or an unsafe concentration of gas.

- 243 **SHOP ENVIRONMENT:** A commercial, governmental, or educational stationary source where coatings are applied, excluding those locations at which coatings subject to Rule 442, Architectural Coatings, are applied.
- 244 **SILICONE RELEASE COATING:** A coating which contains silicone resin and is intended to prevent a substance from sticking to metal surfaces such as baking pans.
- 245 **SOLAR ABSORBENT COATING:** A coating which has, as its primary purpose, the absorption of solar radiation.
- 246 **STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission.
- 246.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- a. Belong to the same industrial grouping, and
 - b. Are located on one property, or two or more contiguous properties, and
 - c. Are under the same or common ownership, operation, or control, or which are owned or operated by entities which are under common control.
- 246.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- a. They belong to the same two-digit Standard Industrial Classification (SIC) code, or
 - b. They are part of a common production process, which includes industrial processes, manufacturing processes and any connected processes involving a common material.
- 247 **STENCIL COATING:** An ink or a coating which is applied by a template or stamp in order to add designs, letters and/or numbers to a part or product.
- 248 **SURFACE PREPARATION MATERIAL:** A VOC containing material applied to the surface of any miscellaneous metal part or product prior to the application of coatings to clean the substrate or to promote adhesion of subsequent coatings.
- 249 **TEXTURE COATING:** A coating that, when applied, consists of discrete raised spots and is used for decorative or functional purposes.
- 250 **TOUCH-UP COATING:** A coating used to cover minor coating imperfections appearing after the main coating operation.
- 251 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101-GENERAL PROVISIONS AND DEFINITIONS.
- 252 **VOLATILE ORGANIC COMPOUND (VOC) AS APPLIED:** For the purpose of this rule, VOC as applied means the VOC content including thinners, reducers, hardeners, retarders, catalysts and additives calculated pursuant to Sections 403 or 404 as applicable.

300 STANDARDS

- 301 **VOC CONTENT OF COATINGS FOR MISCELLANEOUS METAL PARTS AND PRODUCTS:** Except as provided in Sections 110, 111, 112, 113, or 306, a person shall not apply to any miscellaneous metal part or product any coating that exceeds the following VOC content limits as applied. The VOC content of the coating shall be determined pursuant to Section 502.1.

COATING CATEGORY	VOC CONTENT: Grams/Liter (Lbs/Gal) less water and exempt compounds	
	AIR DRIED	BAKED
Aluminum Coating for Window Frames and Door Frames	420 (3.5)	420 (3.5) [Effective April 28, 2011, 275 (2.3)]
Camouflage	420 (3.5)	360 (3.0)
Electrical Insulating	340 (2.8)	275 (2.3)
Etching Filler	420 (3.5)	420 (3.5)
Extreme High Gloss	420 (3.5)	360 (3.0)
Extreme Performance	420 (3.5)	420 (3.5) [Effective April 28, 2011, 360 (3.0)]
Heat Resistant	420 (3.5)	360 (3.0)
Metallic/Iridescent	420 (3.5)	420 (3.5)
Non-Skid This category will sunset on April 28, 2011, and be subject to the limits for All Other Coatings	420 (3.5)	360 (3.0)
Prefabricated Architectural Component	420 (3.5)	275 (2.3)
Pretreatment Wash Primer	420 (3.5)	420 (3.5)
Silicone Release Coating	420 (3.5)	420 (3.5)
Solar Absorbent	420 (3.5)	360 (3.0)
All Other Coatings	340 (2.8)	275 (2.3)

- 302 **VOC CONTENT OF COATINGS FOR METAL FURNITURE:** Except as provided in Sections 111, 112, 113, 115, or 306, a person shall not apply to metal furniture any coating that exceeds the following VOC content limits as applied. The VOC content of the coating shall be determined pursuant to Section 502.1.

COATING CATEGORY	VOC CONTENT: Grams/Liter (Lbs/Gal) less water and exempt compounds	
	AIR DRIED	BAKED
General, Multi-Component	340 (2.8)	275 (2.3)
Etching Filler	420 (3.5)	420 (3.5)
Extreme High Gloss	340 (2.8)	360 (3.0)
Extreme Performance	420 (3.5)	360 (3.0)
Heat Resistant	420 (3.5)	360 (3.0)
Metallic/Iridescent	420 (3.5)	420 (3.5)
Pretreatment Wash Primer	420 (3.5)	420 (3.5)
Solar Absorbent	420 (3.5)	360 (3.0)
All Other Coatings	275 (2.3)	275 (2.3)

- 303 **VOC CONTENT FOR COATING REMOVERS (STRIPPERS):** A person shall not use a stripper on miscellaneous metal parts and products which contains more than 200 grams of VOC per liter of material (1.7 pounds per gallon).

- 304 **APPLICATION EQUIPMENT REQUIREMENTS:** A person shall not apply to any miscellaneous metal part or product any coating unless one of the following application methods is used:
- 304.1 Roll Coater
 - 304.2 Dip Coat
 - 304.3 Electrostatic Spray
 - 304.4 Flow Coat
 - 304.5 High-Volume Low-Pressure (HVLP) Application Equipment
 - 304.6 Low-Volume Low-Pressure (LVLP) Application Equipment
 - 304.7 Hand Application Equipment, such as brush or roller
 - 304.8 Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency
- 305 **SURFACE PREPARATION, CLEANUP, AND STORAGE REQUIREMENTS:** Any person subject to this rule shall comply with the following requirements:
- 305.1 Closed containers shall be used for the disposal of cloth, paper, or sponges used for surface preparation, cleanup, coating application and coating removal.
 - 305.2 VOC-containing materials shall be stored in containers, which are closed when not in use, shall be disposed of in a manner that the VOC are not emitted into the atmosphere, and shall be conveyed from one location to another in closed containers or through pipes.
 - 305.3 A person shall not perform cleanup of application equipment (including spray gun nozzles) with a material containing VOC in excess of 25 grams per liter (0.21 pounds per gallon).
 - 305.4 A person shall not perform product cleaning or surface preparation with a material containing VOC in excess of 25 grams per liter (0.21 pounds per gallon).
 - 305.5 Spillage of VOC-containing materials shall be minimized.
- 306 **EMISSION CONTROL SYSTEM REQUIREMENTS:** As an alternative to Sections 301, 302, 303, 305.3, and 305.4, a person may use air pollution control equipment subject to the approval of the Air Pollution Control Officer that provides an overall system efficiency, as determined by Section 406, of not less than 90%.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **LOW USAGE EXEMPTION SUBMITTAL:** The total previous calendar year usage records, as specified in Section 501.3a(3), for all coatings, coating removers, surface preparation and cleanup materials exceeding the VOC limits specified in Sections 301, 303, 305.3, and 305.4 shall be submitted annually to the Air Pollution Control Officer by January 31.
- 402 **PRODUCT INFORMATION REQUIREMENTS FOR SELLERS:** Any person who sells any coating, coating remover (stripper), surface preparation or cleanup material subject to this rule shall provide the following information on material data sheets made available to the purchaser at the time of sale:
- 402.1 The material type by name/code/manufacturer
 - 402.2 For coating material, the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), excluding water and exempt compounds, pursuant to Section 403.
 - 402.3 For coating removers (strippers), surface preparation and cleanup material, the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), including water and exempt compounds, pursuant to Section 404.
 - 402.4 For all material, recommendations regarding thinning, reducing, or mixing with any VOC containing material, as defined in Section 251.
 - 402.5 For all material, VOC content may be calculated using product formulation data, or may be determined using the test method in Section 502.1.

- 403 **CALCULATION FOR DETERMINING VOC CONTENT OF COATINGS, LESS WATER AND EXEMPT COMPOUNDS:** The volume of coating material is defined as the volume of the original coating plus any VOC-containing material added to the original coating. The weight of VOC per combined volume of VOC and coating solids shall be calculated by the following equation:

$$G_1 = \frac{(W_v - W_w - W_{ec})}{(V_m - V_w - V_{EC})}$$

Where: G_1	=	Weight of VOC per total volume of coating, less water and exempt compounds, in grams per liter
W_v	=	Weight of all volatile compounds including any volatile materials added to the original coating supplied by the manufacturer, in grams
W_w	=	Weight of water, in grams
W_{ec}	=	Weight of exempt compounds as listed in Section 220, in grams
V_m	=	Volume of coating material, in liters
V_w	=	Volume of water, in liters
V_{ec}	=	Volume of exempt compounds as listed in Section 220, in liters

- 404 **CALCULATION FOR DETERMINING VOC CONTENT OF COATING REMOVERS (STRIPPERS) AND SURFACE PREPARATION AND CLEANUP MATERIAL:** The volume of material is defined as the volume of the original material, plus any VOC-containing material added to the original material. The weight of VOC per total volume of material shall be calculated by the following equation:

$$G_1 = \frac{(W_v - W_w - W_{ec})}{V_m}$$

Where: G_1	=	Weight of VOC per total volume of material, in grams per liter
W_v	=	Weight of all volatile compounds, in grams
W_w	=	Weight of water, in grams
W_{ec}	=	Weight of exempt compounds as listed in Section 220, in grams
V_m	=	Volume of material, in liters

- 405 **CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the respective VOC mass concentration and volumetric flowrate, pursuant to Section 502.4 and the following equation:

$$M = (Q)(C)(60 \text{ min/hr})$$

Where: M	=	VOC mass emission rate, in lb/hr.
Q	=	the volumetric flowrate of the exhaust stack, in scfm.
C	=	the VOC mass concentration, in lb/scf, as measured by EPA Method 25.

The percent control efficiency is calculated as follows:

$$\%CE = [(M_U - M_D) / M_U] \times 100$$

Where: CE = control efficiency.
 M_U = the upstream VOC mass emission rate, in lb/hr.
 M_D = the downstream VOC mass emission rate, in lb/hr.

- 406 **CALCULATION FOR DETERMINING OVERALL SYSTEM EFFICIENCY:** The overall system efficiency is calculated as follows:

$$\%SE = [\%CLE \times \%CE] / 100$$

Where: SE = system efficiency.
 CLE = collection efficiency, as determined by Section 502.3
 CE = control efficiency, as determined by 502.4

- 407 **OPERATION AND MAINTENANCE PLAN:** Any person using an approved emission control device pursuant to Section 306 as a means of complying with this rule, as provided in Sections 301, 302, 303, 305.3, and 305.4 must submit, with the application for Authority to Construct, pursuant to Rule 201, General Permit Requirements, an Operation and Maintenance Plan for the emission control device to the Air Pollution Control Officer for approval. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation of the emission control device during periods of emissions-producing operations. The Plan shall also specify which records must be kept to document these operation and maintenance procedures. These records shall comply with the requirements of Sections 501.4 and 501.5. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

500 MONITORING AND RECORDS

- 501 **RECORDKEEPING FOR END USERS:** In addition to any existing permit conditions issued pursuant to Rule 201, any person within the District subject to this rule, including operations claiming exemption under Sections 110, 112, and 115, shall comply with the following requirements:
- 501.1 **LIST OF MATERIALS:** A list shall be maintained of currently used coatings, coating removers (strippers), surface preparation materials, cleanup materials, and other VOC containing materials including, but not limited to thinners, reducers, hardeners, retarders, catalysts, etc. The list shall contain all such materials that are currently used and stored on site and shall include the following information:
- The material type by name/code/manufacturer and the appropriate category as designated by the coating categories or other material categories in Sections 301, 302, 303, 305, or "exempt", as specified by Sections 111 and 112, as applicable.
 - The actual VOC content of the material, as applied, pursuant to Section 252. VOC content as provided by the manufacturer, pursuant to Section 402 is acceptable, if following manufacturer's recommended mix ratio.
 - The actual mixing ratio used for the material, as applied.
 - The substrate to which the material is applied.
 - Identification of each material type exceeding the VOC limits specified in Sections 301, 303, 305.3, and 305.4.
- 501.2 **PRODUCT INFORMATION:** A data sheet applicable to each material type shall be maintained on site and made available to the Air Pollution Control Officer on request. The data sheet shall be provided by the supplier to the end user, pursuant to Section 402, and shall include the following information:

- a. The material type by name/code/manufacturer
- b. For coating material: the maximum VOC content of the coating material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), excluding water and exempt compounds, pursuant to Section 403.
- c. For coating removers (strippers), surface preparation and cleanup material: the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), including water and exempt compounds, pursuant to Section 404.
- d. For all material, recommendations regarding thinning, reducing, or mixing with any VOC containing material, as defined in Section 251.
- e. For all material, VOC content may be calculated using product formulation data, or may be determined using the test method in Section 502.1.

501.3 **USAGE RECORDS:** Any person within the District using materials regulated by this rule shall update and maintain the records as follows:

- a. Monthly:
 1. Records of total applied volume for each coating, coating remover (stripper), surface preparation and cleanup material, specified by category as listed in Sections 301, 302, 303, and 305.
 2. The method of application, specified by coating category or other material category as listed in Sections 301, 302, and 303 including a designation for touch-up and repair operations, as applicable.
 3. Records of total applied volume for each material type exceeding the VOC limits specified in Sections 301, 303, 305.3, and 305.4 by name/code/manufacturer and coating category.
- b. Daily:
 1. If, pursuant to Section 306, an emission control device is used as a means of complying with this rule, records of the material type by name/code/manufacturer and the total applied volume of each material.
 2. For non-compliant materials, as defined in Section 236, records regarding the use, including the lack of use, of each material type by name/code/manufacturer and the total applied volume of each material.

501.4 **CONTROL EQUIPMENT:** Any person using an emission control device pursuant to Section 306 as a means of complying with this rule shall maintain such records as required by the Operation and Maintenance Plan in Section 407 on a daily basis.

501.5 **DURATION OF RECORDS:** Such records shall be maintained on-site for five years and made available for review by the Air Pollution Control Officer upon request.

502 TESTING PROCEDURES:

502.1 **DETERMINATION OF VOC CONTENT:** VOC content of coatings, coating removers (strippers), and surface preparation and cleanup material shall be determined using EPA Reference method 24 and Sections 403 and 404 of this rule and Section 502.5 of this rule.

502.2 **DETERMINATION OF ACID CONTENT:** Measurement of acid content shall be determined in accordance with ASTM D 1613-06.

502.3 **DETERMINATION OF COLLECTION EFFICIENCY:** Collection efficiency shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:

- a. Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or
- b. Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.

- 502.4 **DETERMINATION OF CONTROL EFFICIENCY:** Efficiency of control equipment shall be determined in accordance with EPA Method 18, 25, 25A, EPA Method 2 or 2C (whichever is applicable), and Section 405.
- 502.5 **DETERMINATION OF COMPOUNDS EXEMPT FROM VOC DEFINITION:** Compounds exempted from VOC definition, as listed in Section 220, shall be determined in accordance with ASTM D 4457-02 (2008) or ARB Method 432. If any of the perfluorocarbons are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.
- 502.6 **DETERMINATION OF METAL CONTENT:** Measurement of metal content shall be conducted and reported in accordance with the South Coast Air Quality Management District's Method 318, "Determination of Weight Percent Elemental Metals in Coatings by X-ray Diffraction".
- 502.7 **DETERMINATION OF SOLIDS CONTENT:** Solids content of coatings shall be determined using EPA Reference method 24.
- 502.8 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

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RULE 452 CAN COATING
Adopted 6-19-79
(Amended 11-29-83, 8-27-85, 8-21-90, 11-16-93, 9-5-96, 9-25-08)

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100 GENERAL

- 101 **PURPOSE:** To limit emissions of volatile organic compounds from can coating operations. Coating operations subject to this Rule shall be exempt from the requirements of Rule 441.
- 102 **APPLICABILITY:** The provisions of this rule shall apply to can coating operations.
- 103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect, to the extent allowed by law.

200 DEFINITIONS

- 201 **COATING LINE:** An operation or process for applying, drying, baking and/or curing surface coatings, together with associated equipment including a coating applicator, flash-off area and oven.
- 202 **CAN COATING:** A coating applied or intended for application by spray, roller, or other means onto the interior and/or exterior surfaces of formed metal cans, or to the surface of flat metal sheets, strips, rolls, or coils intended for can construction.
- 203 **DIP COAT:** A coating method which is applied by dipping an object into a vat of coating material and allowing any excess coating material to drain off.
- 204 **ELECTROSTATIC SPRAY:** The spray application of coatings where an electrostatic potential is created between the part to be coated and the coating particles.
- 205 **END SEALING COMPOUND:** A coating applied to can ends and which functions as a gasket when the end is assembled onto the can.
- 206 **EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101- GENERAL PROVISIONS AND DEFINITIONS.
- 207 **EXTERIOR BASE COATING:** A coating applied to the exterior of a can to provide protection to the metal or to provide background for any lithographic or printing operation.
- 208 **FLOW COAT:** A coating method which is applied by flowing a stream of coating over an object and allowing any excess coating material to drain off.
- 209 **FOOD/BEVERAGE CAN:** Any metal container intended for packaging food or beverages.
- 210 **HAND APPLICATION EQUIPMENT:** Manually held equipment such as brushes, rollers, trowels, spatulas, daubers, rags, sponges, and mechanically or pneumatically driven syringes that do not atomize the applied products.
- 211 **HIGH-VOLUME LOW-PRESSURE APPLICATION EQUIPMENT:** Equipment used to apply coatings by means of a gun which is designed to be operated and which is operated between 0.1 and 10 psig air pressure measured dynamically at the center of the air cap and at the air horns.
- 212 **INTERIOR BASE COATING:** A coating applied to the interior of a can to provide a protective lining between the product and the can.
- 213 **INTERIOR BODY SPRAY:** A coating sprayed on the interior of the can body to provide a protective lining between the product and the can.

- 214 **LOW-VOLUME LOW-PRESSURE APPLICATION EQUIPMENT:** Spray coating application equipment with air pressure between 0.1 and 10.0 pounds per square inch gauge (psig) and air volume less than 15.5 cfm per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 215 **OVERVARNISH:** A coating applied directly over a design coating to reduce the coefficient of friction, to provide gloss and to protect the finish against abrasion and corrosion.
- 216 **ROLL COATER:** A series of mechanical rollers that forms a thin coating film on the surface of the roller, which is applied to a substrate by moving the substrate underneath the roller.
- 217 **THREE-PIECE CAN SIDE-SEAM SPRAY:** A coating sprayed on the interior and/or exterior of a welded, cemented or soldered seam to protect the exposed metal.
- 218 **TWO-PIECE CAN EXTERIOR END COATING:** A coating applied to the exterior end of a can to provide protection to the metal.
- 219 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101-GENERAL PROVISIONS AND DEFINITIONS.

300 STANDARDS

- 301 **VOC LIMITATION:** Except as provided in Section 302, a person shall not use or apply any coating on any coating line of the type designated below which contain volatile organic compounds in excess of the following limits:

Coating Category	Grams of VOC/liter of coating as applied, excluding water and exempt compounds
Interior Base Coating	225
Interior Base Coating Overvarnish	225
Exterior Base Coating	225
Exterior Base Coating Overvarnish	225
Two Piece Can Exterior Base Coating	250
Two Piece Can Exterior Base Coating Overvarnish	250
Two Piece Can Interior Body Spray	420
Three Piece Can Interior Body Spray	360
Two Piece Can Exterior End Coating	250
Three Piece Can Side Seam Spray	660
End Sealing Compound for Food/Beverage Cans	20
End Sealing Compound for Non-Food Containers	0

- 302 **EQUIVALENT CONTROL METHODS:** Use or application of coatings which contain volatile organic compounds in excess of the limits specified in Section 301 shall not be allowed unless:
- 302.1 An emissions control device achieving an overall system efficiency, as determined by Section 405, of not less than 90% is used,
- 302.2 An Operation and Maintenance Plan is approved by the Air Pollution Control Officer, and
- 302.3 Daily emissions do not exceed the level which would be achieved from the equivalent use of coatings which comply with the limits specified in Section 301, as calculated by the following equation:

$$\left[1 - \left(\frac{CE}{100} \right) \left(\frac{CL}{100} \right) \right] \sum_{i=1}^n ACT_i(U_i) \leq \sum_{i=1}^n LIM_i(U_i)$$

Where: CE = Control device efficiency, % by mass
 CL = Collection efficiency, % by mass
 ACT_i = Actual VOC content of material "i," grams per liter
 LIM_i = Applicable VOC limit for material "i" in Section 301, grams per liter
 U_i = Usage of material "i," liters per day

- 303 **SOLVENT USAGE:** Any person using solvents:
- 303.1 Prior to September 25, 2009, shall not use VOC containing materials which contain more than 200 grams of VOC per liter of material for cleanup of container assembly equipment, including slitters, bodymakers, beadars, end seamers, flangers, and testers, excluding side seam spray application equipment,
- 303.2 Effective September 25, 2009, shall not use VOC containing materials which contain more than 25 grams of VOC per liter of material for cleanup of container assembly equipment, including slitters, bodymakers, beadars, end seamers, flangers, and testers, excluding side seam spray application equipment,
- 303.3 Shall not store unused or waste solvent in open containers, and
- 303.4 Shall not store or dispose of fabric, paper, or any other waste materials used for cleanup or surface preparation in open containers.
- 304 **APPLICATION EQUIPMENT REQUIREMENTS:** A person shall not apply any coating unless one of the following application methods is used:
- 304.1 Roll Coater
- 304.2 Dip Coat
- 304.3 Electrostatic Spray
- 304.4 Flow Coat
- 304.5 High-Volume Low-Pressure (HVLP) Application Equipment
- 304.6 Low-Volume Low-Pressure (LVLP) Application Equipment
- 304.7 Hand Application Equipment, such as brush or roller
- 304.8 Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency
- 304.9 In lieu of complying with the requirements in Sections 304.1 through 304.8, a person may control emissions from application equipment with a VOC emissions control device with an overall system efficiency, as determined by Section 405, of not less than 85.5%. An Operation and Maintenance Plan for the emissions control device must be approved by the Air Pollution Control Officer.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **OPERATION AND MAINTENANCE PLAN:** Any facility using an emission control device as a means of complying with this rule, as provided in Sections 302 or 304.9, must submit with the application for Authority to Construct and resubmit annually, upon completion of construction of the emission control device, an Operation and Maintenance Plan for the emission control device to the Air Pollution Control Officer for approval. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation of the emission control device during periods of emissions-producing operations. The Plan shall also specify which records must be kept to document these operation and maintenance procedures. These records shall comply with the requirements of Sections 504 and 505. The Plan shall be implemented upon approval of the Air Pollution Control Officer.
- 402 **CALCULATION FOR DETERMINATION OF VOC CONTENT PER VOLUME OF COATING:**
 The volume of coating material is defined as the volume of the original coating, plus any VOC-containing material added to the original coating. The original coating is the coating before any VOC-containing material such as solvent is added for purposes of mixing or

thinning. The weight of VOC per combined volume of VOC and coating solids shall be calculated by the following equation:

$$\frac{(W_v - W_w - W_{ec})}{(V_m - V_w - V_{ec})}$$

Where: W_v = weight of all volatile compounds.
 W_w = weight of water.
 W_{ec} = weight of compounds listed as exempt in Section 206 from the definition of VOC.
 V_m = volume of coating material.
 V_w = volume of water.
 V_{ec} = volume of compounds listed as exempt in Section 206 from the definition of VOC.

- 403 **CALCULATION FOR DETERMINATION OF VOC CONTENT OF CLEANUP MATERIAL:** The volume of material is defined as the volume of the original material, plus any VOC-containing material added to the original material. The weight of VOC per total volume of material shall be calculated by the following equation;

$$G_1 = \frac{(W_v - W_w - W_{ec})}{V_m}$$

Where: G_1 = Weight of VOC per total volume of material, in grams per liter
 W_v = Weight of all volatile compounds, in grams
 W_w = Weight of water, in grams
 W_{ec} = Weight of exempt compounds as listed in Section 206, in grams
 V_m = Volume of material, in liters

- 404 **CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the respective VOC mass concentration and volumetric flowrate, pursuant to Section 502.4 and the following equation:

$$M = (Q)(C)(60 \text{ min/hr})$$

Where: M = VOC mass emission rate, in lb/hr.
 Q = the volumetric flowrate of the exhaust stack, in scfm.
 C = the VOC mass concentration, in lb/scf, as measured by EPA Method 25 or 25A.

The percent control efficiency is calculated as follows:

$$\%CE = [(M_U - M_D) / M_U] \times 100$$

Where: CE = control efficiency.
 M_U = the upstream VOC mass emission rate, in lb/hr.
 M_D = the downstream VOC mass emission rate, in lb/hr.

- 405 **CALCULATION FOR DETERMINING OVERALL SYSTEM EFFICIENCY:** To verify compliance with Section 302, the overall system efficiency is calculated as follows:

$$\%SE = [\%CLE \times \%CE] / 100$$

Where: SE = system efficiency.
CLE = capture efficiency, as determined by Section 501.3
CE = control efficiency, as determined by Sections 404 and 501.2

500 MONITORING AND RECORDS

- 501 **TESTING PROCEDURES:** A result by any of the below listed test methods which shows non-compliance with any provision of the rule shall constitute a violation of the rule.
- 501.1 **VOC CONTENT:** Measurement of volatile organic compounds in coatings and solvents shall be conducted and reported in accordance with EPA Reference Method 24 (40 CFR 60, Appendix A) and Sections 402, 403, and 501.4 of this rule.
- 501.2 **CONTROL DEVICE:** Control efficiency and emission rates from control devices shall be determined by EPA Method 25 or 25A, ARB Method 422, and Section 404.
- 501.3 **DETERMINATION OF CAPTURE EFFICIENCY:** Capture efficiency shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:
- Applicable U.S. EPA Methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or
 - Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 501.4 **DETERMINATION OF COMPOUNDS EXEMPT FROM VOC DEFINITION:** Compounds exempted from the VOC definition, as listed in Section 206 of this rule, shall be determined in accordance with ASTM D 4457-02 (2008) or ARB Method 432. If any of the perfluorocarbons are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.
- 501.5 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.
- 502 **COATING RECORDS:** A person subject to this rule shall maintain the following daily records for each coating line:
- Coating type, the amount of coating applied daily, and description of the substrate coated.
 - Manufacturer's name and product code or equivalent for each coating type and the coating category as specified in Section 301.
 - VOC content of the coatings, as applied, in grams per liter, excluding water and exempt compounds.
- 503 **SOLVENT RECORDS:** A person subject to this rule shall maintain the following daily records for each container assembly line:
- Amount of solvents used.
 - VOC content of each solvent.
- 504 **RECORD RETENTION:**
- Prior to September 25, 2011, a person required to maintain records specified in Sections 502, 503, and 505 shall retain such records on-site for two years and make such records available for review by the Air Pollution Control Officer upon request.

- 504.2 Effective September 25, 2011, a person required to maintain records specified in Sections 502, 503, and 505 shall retain such records on-site for five years and make such records available for review by the Air Pollution Control Officer upon request.
- 505 **CONTROL EQUIPMENT:** Any person using an emission control system pursuant to Section 302 or 304.9 as a means of complying with this rule shall maintain such records as required by the Operation and Maintenance Plan in Section 401 on a daily basis.

RULE 453

CUTBACK AND EMULSIFIED ASPHALT PAVING MATERIALS

(Amended 8-13-81, 8-31-82)

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100 GENERAL

101 PURPOSE: To limit emissions of volatile organic compounds from the use of cutback and emulsified asphalt in paving materials, paving and maintenance operations.

110 EXEMPTION: USE OUTSIDE OF COUNTY: The provisions of Sections 301 and 302 of this rule do not apply

to the use of cutback asphalt or emulsified asphalt in the manufacturing of paving materials where such materials are for immediate shipment and eventual use outside of the County of Sacramento, State of California.

111 EXEMPTION: USE AS PENETRATING PRIME COAT: The provisions of Section 301 of this rule do not apply to the use of medium cure cutback asphalt as a penetrating prime coat until such time as the Air Pollution Control Officer determines that a suitable substitute material is available. This exemption shall be evaluated annually.

200 DEFINITIONS

201 ASPHALT: Dark brown to black cementitious material (solid, semi-solid, or liquid in consistency) of which the main constituents are bitumens which occur naturally or as a residue of petroleum refining.

202 CUTBACK ASPHALT: Paving grade asphalts liquefied with petroleum distillate and conforming to specifications of the American Society for Testing & Materials (ASTM) as follows:

Rapid Cure	Type:	ASTM D2028-76
Medium Cure	Type:	ASTM D2027-76
Slow Cure	Type:	ASTM D2026-72

203 EMULSIFIED ASPHALT: Rapid, medium, or slow setting grade as described under Section 94 of the January 1981, State of California Department of Transportation Standard Specifications.

204 PENETRATING PRIME COAT: Any application of asphalt to an absorptive surface to penetrate that surface, to bind the aggregate, and/or promote adhesion to new construction. Dust pallatives or tack coats shall not be included in this definition.

300 STANDARDS

301 CUTBACK ASPHALT: A person shall not manufacture for sale nor use for paving, road construction or road maintenance any:

- a. Rapid or medium cure cutback asphalt;
- b. Slow cure cutback asphalt containing organic compounds which evaporate at 260oC (500oF) or lower as determined by ASTM Method D402 or other test method as approved by the Air Pollution Control Officer.

302 EMULSIFIED ASPHALT: A person shall not manufacture for paving, road construction or road maintenance any emulsified asphalt containing organic compounds which evaporate at 260oC (500oF) or lower as determined by ASTM Method D244, or other test method as approved by the Air Pollution Control Officer, in excess of:

302.1 Effective January 1, 1982:

- a. Slow setting type, 3% by volume.
- b. Rapid setting type, 3% by volume.
- c. Medium setting type for use with open graded aggregate, 8% by volume.
- d. Medium setting type for use with dense graded aggregate, 12% by volume.

302.2 Effective January 1, 1984:

- a. Medium setting type for use with any aggregate, 3% by volume.

RULE 454 DEGREASING OPERATIONS

Adopted 6-5-79

(Amended 7-23-81, 11-29-83, 2-23-93, 9-5-96, 4-3-97, 5-23-02, 9-25-08)

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100 GENERAL

- 101 **PURPOSE:** To limit the emission of volatile organic compounds from degreasers.
- 102 **APPLICABILITY:** This rule applies to solvent degreasing operations.
- 103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect, to the extent allowed by law.
- 110 **EXEMPTIONS:**
- 110.1 The provisions of this rule do not apply to wipe cleaning.
 - 110.2 Prior to September 25, 2009, the provisions of this rule shall not apply to non-vapor degreasers which use solvents that contain 50 grams per liter or less VOCs including water and exempt compounds.
 - 110.3 Effective September 25, 2009, the provisions of this rule shall not apply to degreasers which use solvents that contain 25 grams per liter or less VOCs including water and exempt compounds, as determined by Sections 502.5 and 502.6.
 - 110.4 The provisions of Section 308.7 of this rule do not apply to open-top vapor degreasers where solvent flow complies with Section 308.10.b. and liquid solvent does not splash above the air-vapor interface.
 - 110.5 Prior to September 25, 2009, the provisions of this rule shall not apply to solvent degreasing operations that are subject to the NESHAP requirements of 40 CFR Part 63 Subpart T- Halogenated Solvents Emissions from Solvent Cleaning.
 - 110.6 The provisions of this rule shall not apply to products subject to the Air Resources Board Consumer Products Regulations as set forth at Subchapter 8.5, Article 2, Section 94507-94517 of Title 17 of the California Code of Regulations.
 - 110.7 The VOC content limits in Sections 302.2 and 302.3 do not apply to degreasing of tools, equipment and machinery, regulated under Rule 456, AEROSPACE ASSEMBLY AND COMPONENT COATING OPERATIONS, and aerospace products using solvents that comply with the surface preparation and cleanup VOC limits in Section 304.7 of Rule 456, AEROSPACE ASSEMBLY AND COMPONENT COATING OPERATIONS.
 - 110.8 The provisions of this rule shall not apply to degreasing of high-voltage microwave vacuum tubes.

200 DEFINITIONS

- 201 **AIRTIGHT/AIRLESS CLEANING SYSTEM:** A sealed cleaning system that has no open air/vapor or air/solvent interface, and is designed and automatically operated to minimize the discharge or leakage of solvent vapor emissions to the atmosphere during all cleaning and vacuum drying operations. The system consists of devices to condense and recover solvent and solvent vapor, and control devices to remove solvent vapors from all gas streams that vent to the atmosphere.
- 202 **CIRCUMFERENTIAL TROUGH:** A receptacle located below the primary condenser that conveys condensed solvent and atmospheric moisture to a water separator.
- 203 **CLOSED CONTAINER:** A container which has a nonabsorbent cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 204 **CONVEYORIZED DEGREASER:** Any continually loaded, conveyORIZED degreaser, using solvent that is maintained either above or below the initial boiling point temperature of the solvent.

- 205 **DEGREASER:** A tank, tray, drum, or other container in which objects to be cleaned are exposed to a degreasing solvent or degreasing solvent vapor.
- 206 **EXEMPT COMPOUND:** For the purposes of this rule, “exempt compound” has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 207 **FREEBOARD HEIGHT:**
207.1 For non-vapor degreasers, freeboard height means the distance from the top of the solvent to the top of the tank.
207.2 For vapor degreasers, freeboard height means the distance from the solvent vapor-air interface to the top of the degreaser.
- 208 **FREEBOARD RATIO:** The freeboard height divided by the smaller of the inside length or the inside width of the degreaser's evaporative surface area.
- 209 **KEY SYSTEM OPERATING PARAMETER:**
209.1 A variable that is critical to the operation of an emission control system and that ensures:
 a. Operation of the system within the system manufacturer's specifications, and
 b. Compliance with the overall system efficiency standard required by Section 306.
209.2 Such variables may include, but are not limited to:
 a. Hours of operation,
 b. Temperature,
 c. Flow rate, and
 d. Pressure.
- 210 **LEAK:** A leak is:
210.1 The dripping of liquid volatile organic compounds in excess of three drops per minute; or
210.2 The appearance of a visible mist.
- 211 **LIP EXHAUST SYSTEM:** A system which collects solvent vapors escaping from the top of a degreaser and directs them away from operating personnel.
- 212 **LOW VOLATILITY SOLVENT:** Any solvent with an initial boiling point which is greater than 248°F (120°C).
- 213 **MAKEUP SOLVENT:** The solvent added to the degreaser to replace solvent lost through evaporation or other means.
- 214 **NESHAP:** National Emission Standards for Hazardous Air Pollutants.
- 215 **NON-VAPOR DEGREASER:** Any degreaser, including a remote reservoir degreaser, using solvent which, if heated, is maintained below the initial boiling point temperature of the solvent.
- 216 **OPEN-TOP VAPOR DEGREASER:** Any batch-loaded degreaser using solvent which is maintained above the initial boiling point temperature of the solvent. Degreasing occurs through the condensation of the resultant solvent vapor onto the surface of the workload.
- 217 **OSHA:** Occupational Safety and Health Administration.
- 218 **REFRIGERATED FREEBOARD CHILLER:** A secondary cooling coil mounted above the primary condenser which provides a chilled air blanket above the solvent vapor-air interface to cause the condensation of additional solvent vapor, thereby increasing vapor control efficiency.

- 219 **REMOTE RESERVOIR DEGREASER:** A non-vapor degreaser with a tank which is completely enclosed except for a solvent return opening no larger than 15.50 square inches (100 square centimeters) which allows used solvent to drain into it from a separate solvent sink or work area and which is not accessible for soaking workloads.
- 220 **SOLVENT:** Any liquid containing a volatile organic compound or combination of volatile organic compounds, which is used to perform solvent degreasing.
- 221 **SOLVENT DEGREASING:** The removal of contaminants with solvents from parts, products, tools, machinery, and equipment, including the subsequent drying of the items.
- 222 **STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission.
- 222.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- a. Belong to the same industrial grouping, and
 - b. Are located on one property, or two or more contiguous properties, and
 - c. Are under the same or common ownership, operation, or control, or which are owned or operated by entities which are under common control.
- 222.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- a. They belong to the same two-digit Standard Industrial Classification (SIC) code, or
 - b. They are part of a common production process, which includes industrial processes, manufacturing processes and any connected processes involving a common material.
- 223 **SUPERHEATED VAPOR ZONE:** A region located within the vapor zone of a degreaser whereby solvent vapors are heated above the solvent's boiling point.
- 224 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 225 **VOLATILE SOLVENT:** Any solvent which is not defined as a low volatility solvent pursuant to Section 212.
- 226 **WATER SEPARATOR:** A device that isolates water from an organic solvent or a mixture of organic solvents by a variety of means including, but not limited to, extraction, evaporation, distillation, drying, adsorption, and filtration.
- 227 **WIPE CLEANING:** A method of cleaning which utilizes a material such as a rag wetted with a solvent, coupled with a physical rubbing process to remove contaminants from metal surfaces.
- 228 **WORKLOAD:** The objects put in a degreaser for the purpose of removing oil, grease, soil, coating, dirt or other undesirable matter from the surface of the objects.

300 STANDARDS

- 301 **GENERAL EQUIPMENT REQUIREMENTS:** Any person who uses a degreaser shall utilize the following equipment:
- 301.1 An apparatus or cover which prevents the solvent from evaporating when not processing work in the degreaser.
- a. For non-vapor degreasers using volatile solvent, or solvent that is agitated, the cover shall be designed so that it can be opened and closed easily with one hand.

- b. For open-top vapor degreasers, the cover shall be designed such that it can be opened and closed easily without disturbing the vapor zone.
 - c. For conveyORIZED degreasers, a cover shall be provided for closing off the entrance and exit when not in use.
- 301.2 A facility for draining cleaned parts so that the drained solvent is returned to the container.
- 301.3 A permanent, conspicuous label which summarizes operating requirements contained in Sections 306 through 308 of this rule.
- 301.4 Use only solvent containers free of all liquid leaks. Auxiliary equipment such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks.
- 302 **NON-VAPOR DEGREASERS; EQUIPMENT REQUIREMENTS:** In addition to the applicable requirements in Section 301, a person operating a non-vapor degreaser shall also comply with the following requirements:
- 302.1 A person shall only operate non-vapor degreasers using one of the following control devices:
- a. Non-vapor degreasers shall operate with a freeboard ratio equal to or greater than 0.75 if using solvents which are:
 - 1. Agitated, or
 - 2. Heated above 122°F (50°C), or
 - 3. Volatile.
 - b. Non-vapor degreasers using only low volatility solvents which are not agitated shall operate with a freeboard height of at least 6 inches.
 - c. A water cover may be used as an acceptable alternative to Sections a and b if the solvent is insoluble in water and has a specific gravity greater than 1.
- 302.2 Prior to September 25, 2009, a person owning or operating a non-vapor degreaser shall use solvents with a VOC content of 50 grams per liter or less including water and exempt compounds, or use an airtight/airless cleaning system. The airtight/airless cleaning system shall comply with the requirements in Section 303.
- 302.3 Effective September 25, 2009, a person owning or operating a non-vapor degreaser shall use a solvent with a VOC content of 25 grams per liter or less including water and exempt compounds, or use an airtight/airless cleaning system. The airtight/airless cleaning system shall comply with the requirements in Section 303.
- 303 **AIRTIGHT/AIRLESS CLEANING SYSTEM REQUIREMENTS:** In lieu of complying with the applicable requirements in Sections 302, 304, or 307, a person may use an airtight/airless cleaning system that complies with the following requirements:
- 303.1 The airtight/airless cleaning system shall be operated in accordance with the manufacturer's specifications and operated with a door or other pressure sealing apparatus that is in place during all cleaning and drying cycles;
- 303.2 The airtight/airless cleaning system shall not have a vapor leak of more than 50 parts per million measured as methane at the outlet of the airtight/airless cleaning system as indicated by a portable analyzer pursuant to Section 502.7;
- 303.3 All waste solvent shall be stored in properly identified and closed containers;
- 303.4 All associated pressure relief devices shall not allow liquid solvents to drain out; and
- 303.5 Spills during solvent transfer shall be wiped up immediately and the used wipe rags shall be stored in closed containers.
- 304 **VAPOR DEGREASERS; EQUIPMENT REQUIREMENTS:** In addition to the applicable requirements in Section 301, a person operating a vapor degreaser shall also comply with the following requirements:
- 304.1 A person shall not operate a vapor degreaser unless the vapor degreaser is equipped with:
- a. An automated parts handling system;
 - b. Circumferential primary condensing coils;
 - c. A circumferential trough;
 - d. A water separator;
 - e. A freeboard ratio of at least 1.0;

- f. A superheated vapor zone; and
 - g. A refrigerated freeboard chiller for which the chilled air blanket temperature (°F) at the coldest point on the vertical axis in the center of the air-vapor interface shall be no greater than 30% of the initial boiling point (°F) of the fresh solvent used, or 41 °F.
- 304.2 In lieu of complying with the requirements in Section 304.1, a carbon adsorption system which ventilates the air-vapor interface at a minimum rate of 15 m³/min/m², but not greater than 20 m³/min/m², unless necessary to meet Federal and State OSHA requirements, with a solvent vapor concentration exiting the exhaust duct of the carbon adsorber of less than 25 ppm solvent averaged over one complete adsorption cycle, and an overall collection and control efficiency of 85 percent.
- 304.3 Effective September 25, 2009, a person owning or operating a vapor degreaser shall use a solvent with a VOC content of 25 grams per liter or less including water and exempt compounds, or use an airtight/airless cleaning system. The airtight/airless cleaning system shall comply with the requirements in Section 303.
- 305 **REMOTE RESERVOIR DEGREASER:** In addition to the applicable requirements in Sections 301 and 302, a person owning or operating a remote reservoir degreaser shall comply with the following requirements:
- 305.1 Prevent solvent vapors from escaping from the solvent container by using such devices as a cover or a valve when the remote reservoir is not being used, cleaned, or repaired;
 - 305.2 Direct solvent flow in to prevent liquid solvent from splashing outside of the remote reservoir degreaser;
 - 305.3 Use only solvent containers free of all liquid leaks. Auxiliary equipment such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks.
- 306 **VAPOR DEGREASERS; SAFETY SWITCHES:** If a vapor degreaser is used, then the following equipment shall be utilized.
- 306.1 A device which shuts off the sump heater if the condenser coolant stops circulating or becomes warmer than specified;
 - 306.2 For spray degreasers, a device which prevents spray pump operation unless the solvent vapor level is at the designed operating level; and
 - 306.3 A manual reset device which shuts off the sump heater if the solvent vapor level rises above the designed operating level.
- 307 **CONVEYORIZED DEGREASERS:** In addition to the requirements of Sections 302 and 304, a person shall not operate a conveyORIZED degreaser unless it is equipped with both of the following control devices:
- 307.1 Either a drying tunnel or other means such as a rotating basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor, and
 - 307.2 Minimized opening: entrances and exits should silhouette workloads so that the average clearance between parts and the edge of the degreaser opening is either less than 4 inches (10 cm) or less than 10 percent of the width of the opening.
- 308 **GENERAL OPERATING REQUIREMENTS:** Any person who uses a degreaser must conform to the following operating requirements:
- 308.1 Operate and maintain the degreaser and emission control equipment in proper working order.
 - 308.2 Do not allow any solvent to leak from any portion of the degreaser.
 - 308.3 Do not store or dispose of any solvent from the degreaser, including waste solvent, in a manner that causes or allows any volatile organic compounds emissions.
 - 308.4 If distillation recovery of waste solvent is performed, solvent residues shall not contain more than 10 percent solvent by volume after distillation.
 - 308.5 Do not remove or open any device designed to cover the solvent unless processing work in the degreaser or performing maintenance on the degreaser.
 - 308.6 Drain cleaned parts after cleaning until dripping ceases (non-vapor degreaser only).

- 308.7 If using a solvent flow, use only a continuous, fluid stream (not a fine, atomized, or shower type spray) at a pressure which does not cause liquid solvent to splash outside of the degreaser.
- 308.8 Perform solvent agitation, where necessary, by means other than air agitation.
- 308.9 Do not degrease porous or absorbent materials such as cloth, leather, wood, or rope.
- 308.10 For vapor degreasers:
- Workloads shall not occupy more than half of the degreaser's evaporative surface area, and
 - Solvent spray shall be kept at least 4 inches below the air-vapor interface.
 - When starting the degreaser, the cooling system shall be turned on before, or simultaneously with, the sump heater.
 - When shutting down the degreaser, the sump heater shall be turned off before, or simultaneously with, the cooling system.
 - The degreaser shall be covered whenever the cooling system is off.
- 308.11 Minimize solvent carryout by the following measures, as applicable:
- Rack workload to facilitate drainage;
 - Move workload in and out of the degreaser at less than 3.3 m/min (11 ft/min);
 - Degrease the workload in the vapor zone until condensation ceases;
 - Allow workload to dry within the degreaser until visually dry;
 - For manual operation, tip out any pools of solvent remaining on the workload before removing it from the degreaser.
- 308.12 All waste solvent shall be stored in properly identified and closed containers;
- 308.13 All associated pressure relief devices shall not allow liquid solvents to drain out; and
- 308.14 Spills during solvent transfer shall be wiped up immediately and the used wipe rags shall be stored in closed containers.
- 309 **LIP EXHAUST SYSTEM:** A lip exhaust system shall not be used on any degreaser, unless it is vented to emissions control equipment provided the emissions control equipment satisfies the requirements specified below. The lip exhaust shall be turned off when the degreaser is covered.
- 309.1 The emissions control equipment is approved by the Air Pollution Control Officer pursuant to Rule 201 – GENERAL PERMIT REQUIREMENTS, and
- 309.2 The emissions control equipment is designed and operated with an overall collection and control device efficiency (the collection efficiency multiplied by the control efficiency) of at least 85 percent on a mass basis, as determined pursuant to Sections 402, 502.2 and 502.3.
- 309.3 The emission collection system shall have a ventilation rate not greater than 20 cubic meters per minute per square meter over the total area of the degreaser's evaporative surface area, unless the rate must be changed to meet Federal and State OSHA requirements.
- 310 **EMISSIONS CONTROL EQUIPMENT:** Prior to September 25, 2009, as an alternative to complying with the applicable requirements of Sections 302, 304, or 307 of this rule, a person may use emissions control equipment, subject to the approval of the Air Pollution Control Officer, provided the emissions control equipment satisfies the following requirements:
- 310.1 The emissions control equipment is approved by the Air Pollution Control Officer pursuant to Rule 201 – GENERAL PERMIT REQUIREMENTS, and
- 310.2 The emissions control equipment is designed and operated with an overall collection and control device efficiency (the collection efficiency multiplied by the control efficiency) of at least 85 percent on a mass basis, as determined pursuant to Sections 402, 502.2 and 502.3.
- 310.3 The emission collection system shall have a ventilation rate not greater than 20 cubic meters per minute per square meter over the total area of the degreaser's evaporative surface area, unless the rate must be changed to meet Federal and State OSHA requirements.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **CALCULATION FOR DETERMINATION OF VOC CONTENT OF MATERIAL INCLUDING WATER AND EXEMPT COMPOUNDS:** The volume of solvent is defined as the volume of the original solvent, plus any VOC-containing material added to the original solvent. The weight of VOC per volume of solvent shall be calculated by the following equation:

$$\frac{(W_v - W_w - W_{ec})}{(V_s)}$$

Where: W_v = weight of all volatile organic compounds.
 W_w = weight of water.
 W_{ec} = weight of exempt compounds
 V_s = volume of solvent.

- 402 **CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control equipment based on the VOC mass concentration and volumetric flowrate, pursuant to Sections 502.3, 502.4 and the following equations:

402.1 **VOC Mass Emission Rate:**

$$M = (Q) * (C) * (60 \frac{m}{hr}) \text{ (calculated upstream and downstream)}$$

Where: M = VOC mass emission rate (upstream/downstream), in lb/hr.
 Q = the volumetric flowrate at the inlet (upstream) or exhaust stack outlet (downstream), in standard cubic feet per minute as determined by Section 502.4.
 C = the VOC mass concentration at the inlet (upstream) or outlet (downstream), in pounds per standard cubic feet, as determined pursuant to Section 502.4.

402.2 **The percent control efficiency is calculated as follows:**

$$\%CE = \left(\frac{M_u - M_d}{M_u} \right) * 100$$

Where: CE = control efficiency.
 M_u = the upstream VOC mass emission rate, in lb/hr.
 M_d = the downstream VOC mass emission rate, in lb/hr.

- 403 **OPERATION AND MAINTENANCE PLAN:** Any person using an approved emission control device pursuant to Sections 309 and 310 must submit an Operation and Maintenance plan for the emissions control equipment to the Air Pollution Control Officer for approval. The plan shall specify operation and maintenance procedures that demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. The plan shall specify key system operating parameters such as temperatures, pressures, and flow rates, necessary to determine compliance with this rule and shall describe in detail procedures to maintain the approved control device. The plan shall specify which records must be kept to document these operations and maintenance procedures. The records shall comply with the requirements of Section 501. The plan shall be implemented upon approval by the Air Pollution Control Officer.

500 MONITORING AND RECORDS

- 501 **RECORDKEEPING:** In addition to any existing permit conditions issued pursuant to Rule 201, GENERAL PERMIT REQUIREMENTS any person subject to this rule shall comply with the following requirements:
- 501.1 **List of Materials:** A list shall be maintained of all solvents currently used and/or stored at the site. The list shall include the following information:
- Cleaning material type by name/code/manufacturer.
 - The actual VOC content of cleaning material listed in Section 302, as applied including water and exempt compounds.
 - The actual mixing ratio for the cleaning material as applied.
- 501.2 **Usage Records:** Any person using cleaning materials regulated by this rule shall update and maintain the records as required by this rule as follows:
- Monthly:**
 - Records of total applied volume in gallons for each cleaning material used.
 - Record of solvent cleaning activity associated with each solvent used.
- 501.3 **Emissions Control Equipment:** Any person using an emission control system pursuant to this rule shall maintain such records on a daily basis, of key system operating parameters for emission control equipment, including, but not limited to:
- Hours of operation;
 - Routine and non-routine maintenance; and
 - The records required by Section 403 as part of the Operation and Maintenance Plan.
 - Records of test reports conducted pursuant to Section 502.
- 501.4 **Duration of Records:**
- Prior to September 25, 2010, records shall be maintained on-site for a continuous three-year period and made available for review by the Air Pollution Control Officer upon request.
 - Effective September 25, 2010, records shall be maintained on-site for a continuous five-year period and made available for review by the Air Pollution Control Officer upon request.
- 502 **TEST METHODS**
- 502.1 **DETERMINATION OF BOILING POINT:** The initial boiling point of solvents shall be determined in accordance with ASTM D 1078-05.
- 502.2 **DETERMINATION OF CONTROL EFFICIENCY:** Control efficiency of control equipment shall be determined in accordance with United States Environmental Protection Agency Method 18, 25, or 25A (whichever is applicable).
- 502.3 **DETERMINATION OF COLLECTION EFFICIENCY:** Collection efficiency shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:
- Applicable U.S. EPA Methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or
 - Any other method approved by U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 502.4 **DETERMINATION OF VOLUMETRIC FLOWRATE:** Volumetric flowrate shall be determined in accordance with United States Environmental Protection Agency Methods 2, 2A, or 2C, or 2D (whichever is applicable).
- 502.5 **DETERMINATION OF VOC CONTENT:** VOC content of solvents shall be determined in accordance with United States Environmental Protection Agency Method 24 and Sections 401 and 502.6 of this rule.
- 502.6 **DETERMINATION OF COMPOUNDS EXEMPT FROM VOC DEFINITION:** Compounds exempted from the VOC definition, as in Section 206 of this rule, shall be determined in accordance with ASTM D 4457-02 (2008) or California Air

Resources Board Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the United States Environmental Protection Agency approved test method used to make the determination of these compounds.

502.7 **DETERMINATION OF VOC LEAKS:** Vapor VOC leaks shall be determined in accordance with United States Environmental Protection Agency test Method 21.

502.8 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

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RULE 455 PHARMACEUTICALS MANUFACTURING

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100 GENERAL

- 101 PURPOSE:** To limit emissions of volatile organic compounds from pharmaceutical manufacturing operations.
- 110 APPLICABILITY:** The provisions of this rule shall apply to:
- 110.1** The manufacture of pharmaceutical and cosmetic products by chemical processes.
 - 110.2** The production and separation of medicinal chemicals such as antibiotics and vitamins from microorganisms.
 - 110.3** The manufacture of botanical and biological products by the extraction of organic chemicals from vegetative materials or animal tissues.
 - 110.4** The formulation of pharmaceuticals into various dosage forms such as tablets, capsules, injectable solutions or ointments, that can be taken by the patient immediately and in an accurate amount; and the formulation of cosmetics into configurations intended for consumer use.
- 111 EXEMPTIONS:** The provisions of this rule shall not apply to facilities that emit, at the design production rating, 15 pounds per day or less of volatile organic compounds.

200 DEFINITIONS

- 201 VOLATILE ORGANIC COMPOUNDS: (VOC)** Compounds of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, ethane, 1, 1, 1 trichloroethane, methylene chloride, and trichlorotrifluoroethane, that have an absolute vapor pressure greater than 26 mm Hg (0.5 psi) at 20^o Celsius (C).
- 202 PHARMACEUTICAL MANUFACTURING PLANT:** Any plant producing or blending chemicals for use in pharmaceutical products and/or manufacturing pharmaceutical products by chemical process.
- 203 COSMETICS MANUFACTURING PLANT:** Any plant producing or blending chemicals for use in cosmetic products and/or manufacturing cosmetic products by chemical processes.
- 204 IN PROCESS TANKS:** Containers used for mixing, blending, heating, reacting, holding, crystallizing, evaporating, or cleaning operations in the manufacture of pharmaceuticals or cosmetics.

300 STANDARDS

- 301 EQUIPMENT REQUIREMENTS:** A person shall conform to the following equipment requirements:
- 301.1** A person shall not use reactors, distillation columns, crystallizers, centrifuges emitting more than 15 pounds per day of VOC for each permit unit unless the vents are equipped with surface condensers or equivalent control devices.
 - 301.2** A person shall not use surface condensers for the control of organic gases unless the condenser outlet gas temperature is controlled as shown in the following table:

Absolute Vapor Pressure of VOC at 20°C	Maximum Condenser Outlet Gas Temperature (°C)
0.5 psi to 1.0 psi	25
1.0 psi to 1.5 psi	10
1.5 psi to 2.9 psi	0
2.9 psi to 5.8 psi	-15
over 5.8 psi	-25

- 301.3 Equivalent control devices may be used with the approval of the Air Pollution Control Officer. Equivalent control is achieved when VOC emissions are reduced by at least as much as would have occurred using a surface condenser per Subsection 301.2.
- 301.4 A person shall not use centrifuges, rotary vacuum filters, or devices having an exposed liquid surface where the liquid contains VOC having a total VOC vapor pressure of 0.5 psi or more at 20°C, unless such devices incorporate a hood or enclosure with a delivery system or ductwork to collect VOC emissions, exhausting to a carbon adsorber, or equivalent control method approved by the Air Pollution Control Officer.
- 301.5 A person shall not use in-process tanks for material containing VOC unless an apparatus or cover which prevents VOC evaporation is provided for the tank. The cover shall be closed or in place on the tank at all times except while loading or unloading the tank.
- 310 OPERATING REQUIREMENTS:** A person shall conform to the following operation requirements:
- 310.1 A person shall not use air dryers or production equipment exhaust systems that emit 330 pounds per day or more of volatile organic compounds for each basic permit unit unless the emission of such organic materials into the atmosphere has been reduced by at least 90 percent by weight.
- 310.2 Notwithstanding the provisions of Subsection 310.1 of this rule a person using air dryer or production equipment exhaust systems that emit less than 330 pounds per day of volatile organic compounds shall reduce the emissions of such organic materials into the atmosphere to less than 33 pounds per day.
- 310.3 A person shall not transfer VOC having a vapor pressure greater than 4.0 psi at 20°C, from any truck or rail car into any storage tank of a 2,000 gallons capacity or greater, unless VOC emissions during transfer are reduced by 90 percent by weight.
- 310.4 A person shall install pressure/vacuum vents set at + 0.03 psig on all storage tanks that store VOC with a vapor pressure greater than 1.5 psig at 20°C, unless a more effective control system, approved by the Air Pollution Control Officer, is used.
- 310.5 A person shall repair all leaks from which a liquid, containing VOC, can be observed to be running or dripping. The repair shall be completed the first time the equipment is off-line for a period of time long enough to complete the repair.

400 ADMINISTRATIVE REQUIREMENTS

401 EFFECTIVE DATES: The owner or operator of any pharmaceutical or cosmetics manufacturing facility subject to this rule shall comply with the provisions of this rule on or before January 1, 1983.

410 PLANTS IN COMPLIANCE: The provisions of Rule 441 shall not apply to processes in compliance with this rule.

RULE 456 AEROSPACE ASSEMBLY AND COMPONENT COATING OPERATIONS

Adopted 2-23-93

(Amended 9-5-96, 7-23-98, 10-23-08)

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100 GENERAL

- 101 **PURPOSE:** To limit emissions of volatile organic compounds from the application and use of coatings, coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material to aerospace components at each stage of the aerospace coating operations.
- 102 **APPLICABILITY:** The provisions of this rule shall apply within the District to the coating of aerospace components including coating removal (stripping), surface preparation and cleaning, and application equipment cleanup by any person, as defined in this rule. The requirements of Rule 441, ORGANIC SOLVENTS, shall not apply to operations subject to this rule.
- 103 **SEVERABILITY:** If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.
- 110 **EXEMPTION, LOW USAGE OF MATERIALS EXCEEDING VOC CONTENT LIMITS OR VOC COMPOSITE PARTIAL VAPOR PRESSURE LIMITS:** Except as provided in Section 110.1, the requirements of Sections 301 or 302 shall not apply to the use of material exceeding the VOC content limits specified in Sections 301 and 302, or the VOC composite partial vapor pressure limits specified in Section 302, provided that the requirements in Sections 401 and 501 are satisfied and the combined total of all materials exceeding the VOC content limits or the VOC composite partial vapor pressure limits used at the stationary source does not exceed 200 gallons in a calendar year prior to January 1, 2009 and 55 gallons in a calendar year beginning on or after January 1, 2009.
- 110.1 On or after January 1, 2009, the requirements of Sections 301 or 302 shall not apply to the use of materials exceeding the VOC content limits specified in Sections 301 and 302, or the VOC composite partial vapor pressure limits specified in Section 302, provided that the requirements in Sections 401, 501, and all of the following are satisfied:
- a. The total of rocket motor adhesive that exceeds the limit specified in Section 301 used at the stationary source does not exceed 200 gallons in a calendar year and the VOC content of the adhesive is less than 890 grams/liter, less water and exempt compounds; and
 - b. The total of all other materials that exceed the limits specified in Sections 301 and 302 used at the stationary source does not exceed 55 gallons in a calendar year; and
 - c. The total combined rocket motor adhesives and all other materials that exceed the limits specified in Sections 301 and 302 used at the stationary source do not exceed 200 gallons in a calendar year.
- 111 **EXEMPTION, AEROSOL CONTAINERS:** The requirements of this rule shall not apply to the following:
- 111.1 Coatings or cleaning solvents in non-refillable aerosol containers having a capacity of one liter (1.1 quarts) or less.
- 112 **EXEMPTION, APPLICATION EQUIPMENT:** The requirements of Section 303 shall not apply to the following:
- 112.1 Coatings that are applied via a template, stencil, stamp, or hand lettering to add designs, letters, or numbers to an aerospace component.
- 112.2 Touch-up and repair coating operations and the use of detail guns for coating application.
- 112.3 The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the District has determined cannot be applied by any of the application methods specified in Section 303.

- 112.4 Hand held spray containers with non-refillable propellant canisters having a capacity of 8 ounces or less where total facility usage does not exceed 10 gallons per year, pursuant to Section 501.3
- 113 **EXEMPTION, SURFACE PREPARATION AND CLEANING:** The requirements of Section 304.7 shall not apply to the following provided the requirements of Section 501 are satisfied:
113.1 Space vehicles.
113.2 Cleaning and surface activation prior to adhesive bonding.
- 114 **EXEMPTION, ROCKET MOTOR LINING PROCESS APPLICATION EQUIPMENT:** The requirements of Section 304.5 shall not apply to the cleaning of rocket motor lining process application equipment if the application equipment is cleaned in an enclosed gun cleaner.

200 DEFINITIONS

- 201 **ABLATIVE COATING:** A coating, applied to both new and rework aerospace components, which chars and becomes intumescent when exposed to open flame, such as would occur during the failure of an engine casing. The purpose of the coating is to act as an insulative barrier and protect adjacent metal parts from an open flame.
- 202 **ADHESIVE:** A coating applied either over an adhesive bonding agent, or directly to the substrate to permanently bond one surface to another.
- 203 **ADHESIVE BONDING AGENT (PRIMER):** A coating applied in a thin film (.0001 to .0005 inches) to two or more aerospace components that are subsequently coated with an adhesive. The purpose of the agent is to provide a slight etching of the surface and ensure the strength of the adhesive bond.
- 204 **AEROSOL CONTAINER:** A hand-held, nonrefillable container which expels pressurized product ingredients by means of a propellant-induced force.
- 205 **AEROSPACE COMPONENT:** The fabricated part, assembly of parts, or completed unit of any aircraft or space vehicle including integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets and test coupons.
- 206 **AIRCRAFT:** Any vehicle designed to travel through the air without leaving the Earth's atmosphere, including airplanes, balloons, helicopters, rockets, and missiles.
- 207 **APPLICATION EQUIPMENT:** A device used to apply coatings or used in preparing a coating material, including, but not limited to, stir sticks or funnels.
- 208 **ATMOSPHERE:** For the purposes of this rule, the gaseous envelope surrounding the Earth, retained by the Earth's gravitational field and extending to a height of 20 miles above the surface of the Earth.
- 209 **CLEANING:** A solvent cleaning operation or activity carried out to keep tools, machinery, or general work areas in clean and operational condition. Cleaning operations include removal of overspray but do not include application equipment cleanup.
- 210 **CLEANUP MATERIAL:** A VOC-containing material used to clean application equipment used in aerospace coating operations.
- 211 **CLOSED CONTAINER:** A container which has a cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 212 **COATING:** A material applied to a surface to identify, beautify, protect, or minimize detection of such surface.

- 213 **COATING LINE:** Any operation or process for applying, baking, curing, or drying surface coatings, together with associated equipment, such as a coating applicator, flashoff area, and oven.
- 214 **COATING REMOVER (STRIPPER):** A material applied to the surface of any aerospace component to completely remove maskants, permanent coatings or coating residues. A coating remover (stripper) is not a surface preparation material, application equipment cleanup material or a material used for cleaning operations. Material used for the removal of overspray is not considered a coating remover.
- 215 **CONFORMAL COATING:** A coating applied to electronic circuit boards or the assembled components for the resistance of moisture, corrosion, bacteria, or fungi.
- 216 **DIP COAT:** A coating method which is applied by dipping an object into a vat of coating material and allowing any excess coating material to drain off.
- 217 **ELECTRODEPOSITION:** A method of applying coatings using a water-based electrochemical bath process. The component being coated is immersed in a bath of the coating. An electrical potential is applied between the component and an oppositely charged electrode hanging in the bath. The electric potential causes the ionized coating to be electrically attracted, migrated and deposited on the component being coated.
- 218 **ELECTROSTATIC DISCHARGE COATING:** An electrically conductive coating which prevents the build-up of static charge on the surface of an aerospace component. Applications include, but are not limited to, composites, space vehicles (shuttle craft rework), missiles, or helicopter blades.
- 219 **ELECTROSTATIC SPRAY:** The spray application of coatings where an electrostatic potential is created between the part to be coated and the coating particles.
- 220 **ENCLOSED GUN CLEANER:**
- 220.1 A device that is used for the cleaning of spray guns, pots, cups and hoses, that has an enclosed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or
- 220.2 A device that is used for the cleaning of spray guns, pots, cups and hoses, that has an enclosed solvent container, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to an enclosed container.
- 221 **END USER:** Any person applying any coating, coating remover (stripper), surface preparation and cleaning material, or application equipment cleanup material subject to this rule.
- 222 **EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 223 **EXTREME PERFORMANCE COATING:** A coating that encounters acute or chronic exposure to salt water, corrosives, caustics, acids, oxidizing agents, wind- or ocean-driven debris, or electromagnetic pulses.
- 224 **FIRE RESISTANT/RETARDANT COATING:** A coating applied to the interior passenger compartments of aircraft that meets the Federal Aviation Administration (FAA) fire protection requirements listed in the Code of Federal Regulations 14 CFR Ch.1 (1-1-89) Part 25.853.
- 225 **FLIGHT TEST COATING:** A coating applied to aircraft to protect against corrosion and provide required marking during flight test evaluation.

- 226 **FLOW COAT:** A coating method which is applied by flowing a stream of coating over an object and allowing any excess coating material to drain off.
- 227 **FUEL TANK COATING:** A coating applied to the interior of an aircraft fuel tank to protect it from internal corrosion and bacterial growth.
- 228 **HAND APPLICATION EQUIPMENT:** Manually held equipment such as brushes, rollers, trowels, spatulas, daubers, rags, sponges, and mechanically or pneumatically driven syringes that do not atomize the applied products.
- 229 **HAND LETTERING:** A method utilizing hand application equipment to add letters and/or numbers on a substrate.
- 230 **HIGH TEMPERATURE COATING:** A coating which must be able to withstand temperatures of more than 400 degrees F.
- 231 **HIGH-VOLUME LOW-PRESSURE APPLICATION EQUIPMENT:** Equipment used to apply coatings by means of a gun which is designed to be operated and which is operated between 0.1 and 10 psig air pressure measured dynamically at the center of the air cap and at the air horns.
- 232 **LOW-VOLUME LOW-PRESSURE APPLICATION EQUIPMENT:** Application equipment with air pressure between 0.1 and 10.0 psig and air volume less than 15.5 cfm per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 233 **MASKANT:** A coating applied directly to an aerospace component to protect surface areas during chemical processing operations such as aging, anodizing, bonding, chemical milling, etching, or plating.
- 234 **MATERIAL:** Any coating, coating remover, or solvent.
- 235 **MISSILE:** A device consisting of an unmanned unit containing internal propulsion (i.e. rocket) and guidance systems.
- 236 **MOLD RELEASE:** A coating applied to a mold surface to prevent the molded piece from sticking to the mold as it is removed.
- 237 **NON-COMPLIANT MATERIAL:** A material that exceeds the VOC content limits specified in Section 301 or 302 or the VOC composite partial vapor pressure limit specified in Section 302, and is in excess of the allowable volume per Section 110, and does not use Rule 107, Alternative Compliance or Section 305 for a compliance option.
- 238 **PART MARKING COATING:** A coating or ink used to make identifying markings on materials, components, and/or assemblies and can be either permanent or temporary.
- 239 **PRETREATMENT WASH PRIMER:** A coating which contains at least ½ percent acid by weight, as determined by Section 502.2, applied directly to aerospace components to provide surface etching, corrosion resistance or adhesion of subsequent coatings.
- 240 **PRIMER:** A coating applied directly to the basic metal or other substrate of an aerospace component, and subsequently covered with a topcoat, to provide corrosion prevention, protection from the environment, functional fluid resistance or adhesion of subsequent coatings.
- 241 **RADIATION EFFECT COATING:** An electronically conductive coating designed to prevent radar detection or electromagnetic interference.

- 242 **RAIN EROSION RESISTANT COATING:** A coating applied primarily to radomes, canopies, and leading edges of aircraft to provide protection from erosion due to rain, dust, and other airborne particles.
- 243 **REPAIR:** Recoating portions of previously coated products due to mechanical damage to the coating following normal coating operations.
- 244 **ROCKET:** A propulsion system designed to propel an object by a thrust generated by the expulsion of matter, especially by the high speed ejection of the gaseous combustion products produced by internal ignition of solid or liquid fuels.
- 245 **ROCKET MOTOR LINING PROCESS:** The application of adhesive or any other material to anywhere inside of the solid rocket motor casing to promote adhesion, provide insulation from the propellant, or inhibit the propellant burn rate.
- 246 **ROLL COATER:** A series of mechanical rollers that forms a thin coating film on the surface of the roller, which is applied to a substrate by moving the substrate underneath the roller.
- 247 **SEALANT:** A coating which prevents the intrusion of moisture, rain, salt water, dust, and aircraft fluids; and used for any of the following specified applications:
- 247.1 Fuel sealing in fuel tanks;
 - 247.2 Pressure area sealing in cabin areas;
 - 247.3 Weather sealing on exterior skin surfaces of aerospace components;
 - 247.4 Firewall sealing in engine and ordnance areas;
 - 247.5 Electrical sealing for bulkhead wiring, electrical connectors and components;
 - 247.6 Acid-resistant sealing in battery compartments and relief tanks;
 - 247.7 Window sealing for windows;
 - 247.8 High temperature sealing in engine areas, anti-icing ducts, and/or some electronics;
 - 247.9 Aerodynamic sealing on exterior skin surfaces of aerospace components.
- 248 **SEALANT ADHESION PROMOTER COATING:** A special primer or adhesion promoter which is applied to aerospace components prior to sealant application to facilitate a bond between the sealant and the component.
- 249 **SELF-PRIMING TOPCOAT:** A two-component urethane coating which is self-priming and acts as a primer/topcoat system, applied directly to an aerospace component for corrosion protection, environmental protection and functional fluid resistance.
- 250 **SOLID FILM LUBRICANT:** A dry lubricant coating used to reduce friction between faying metal surfaces. The coating consists of an organic binder system containing one or more of the following substances: molybdenum disulfide, graphite, polytetrafluoroethylene (Teflon PTFE), other types of Teflon, lauric acid, cetyl alcohol, or waxes.
- 251 **SPACE VEHICLE:** A device designed to travel beyond the Earth's atmosphere, including satellites, manned vehicles (*i.e.* space shuttles), and missiles.
- 252 **STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission.
- 252.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
 - a. Belong to the same industrial grouping, and
 - b. Are located on one property, or two or more contiguous properties, and
 - c. Are under the same or common ownership, operation, or control, or which are owned or operated by entities which are under common control.
 - 252.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
 - a. They belong to the same two-digit Standard Industrial Classification (SIC) code, or

- b. They are part of a common production process, which includes industrial processes, manufacturing processes and any connected processes involving a common material.

- 253 **SURFACE PREPARATION MATERIAL:** A VOC-containing material applied to the surface of any aerospace component to clean the substrate prior to any coating application.
- 254 **TEMPORARY PROTECTIVE COATING:** A coating applied to an aerospace component to protect it from mechanical or corrosion damage during manufacturing and shipping.
- 255 **TEST COUPON:** A sample used to test aerospace coatings.
- 256 **THERMAL EXPANSION RELEASE COATING:** A coating which enables limited movement at the interface between the liner/propellant system and insulator of a rocket to ensure structural integrity during thermal expansion and contraction.
- 257 **THERMOCONTROL COATING:** A coating applied to provide specific emissivity or reflectivity properties to space vehicles.
- 258 **TOOLING:** Instruments or devices used in the manufacturing or rework on parts or completed units of any aerospace component.
- 259 **TOPCOAT:** A coating or series of coatings applied over a primer to provide an appearance, identification, or protection.
- 260 **TOUCH-UP:** That portion of the coating operation which is incidental to the main coating process but necessary to cover minor imperfections.
- 261 **TYPE I CHEMICAL MILLING MASKANT:** A coating that is applied directly to aluminum components to protect surface areas when chemical milling the component with a Type I etchant. A Type I etchant contains varying amounts of dissolved sulfur and does not contain amines.
- 262 **TYPE II CHEMICAL MILLING MASKANT:** A coating that is applied directly to aluminum components to protect surface areas when chemical milling the component with a Type II etchant. A Type II etchant is a strong sodium hydroxide solution containing amines.
- 263 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 264 **VOLATILE ORGANIC COMPOUND (VOC) AS APPLIED:** For the purpose of this rule, VOC as applied means the VOC content including thinners, reducers, hardeners, retarders, catalysts and additives calculated pursuant to Sections 404 or 405 as applicable.
- 265 **WET FASTENER INSTALLATION COATING:** A primer or sealer applied by dipping, brushing, or daubing to fasteners that are installed before the coating is cured.
- 300 STANDARDS:** The following standards shall apply to any person or stationary source subject to this rule:
- 301 **VOC CONTENT OF COATINGS FOR AEROSPACE COMPONENTS:** Except as provided in Sections 110, 111, and 305, a person shall not apply to any aerospace component any coating that exceeds the following VOC content limits as applied. The VOC content per volume of coating shall be determined pursuant to Section 502.1.

COATING TYPE	VOC CONTENT: Grams/Liter (Lbs/Gal) less water and exempt compounds
Ablative	600 (5.0)
Adhesive	600 (5.0)
Adhesive Bonding Agent	780 (6.5)
Conformal	600 (5.0)
Electrostatic Discharge	612 (5.1)
Extreme Performance	750 (6.3)
Fire Resistant/Retardant	600 (5.0)
Flight Test	420 (3.5)
Fuel Tank	650 (5.4)
High Temperature	420 (3.5)
Maskants	
Type I - Chemical Milling	622 (5.2)
Type II - Chemical Milling	160 (1.3)
All Others	850 (7.1)
Mold Release	762 (6.4)
Part Marking	850 (7.1)
Pretreatment Wash Primer	780 (6.5)
Primer	350 (2.9)
Radiation Effect	600 (5.0)
Rain Erosion Resistant:	
Fluoroelastomer	800 (6.7)
All Other	600 (5.0)
Sealant	600 (5.0)
Sealant Adhesion Promoter	750 (6.3)
Self-priming Topcoat	420 (3.5)
Solid Film Lubricant	880 (7.3)
Space Vehicle:	
Electrostatic Discharge	880 (7.3)
All Other	1000 (8.3)
Temporary Protective	250 (2.1)
Thermal Expansion Release	762 (6.4)
Thermocontrol	600 (5.0)
Topcoat:	
Acrylic Lacquer for F-111	780 (6.5)
All Other	420 (3.5)
Wet Fastener Installation	620 (5.2)

302 **VOC CONTENT FOR COATING REMOVERS (STRIPPERS):** A person shall not use a coating remover (stripper) in aerospace coating operations which contains more than 300 grams of VOC per liter of material (2.5 pounds per gallon) or has a VOC composite partial vapor pressure of greater than 9.5 mmHg (0.18 psia) at 68 °F (20 °C). The VOC content shall be determined pursuant to Section 502.1. The VOC composite partial vapor pressure shall be determined pursuant to Section 502.6.

303 **APPLICATION EQUIPMENT REQUIREMENTS:** A person or stationary source shall not apply any coating unless one of the following application methods is used:

- 303.1 Hand application equipment, such as brush or roller.
- 303.2 Dip coat.
- 303.3 Flow coat.
- 303.4 Roll coater.
- 303.5 Electrodeposition.
- 303.6 Electrostatic spray.
- 303.7 High-volume low-pressure (HVLP) spray.
- 303.8 Low-volume low-pressure (LVLP) spray.

303.9 Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency.

304 **SURFACE PREPARATION AND CLEANING, APPLICATION EQUIPMENT CLEANUP, AND STORAGE REQUIREMENTS:** Any person subject to this rule shall comply with all of the following requirements:

304.1 Closed containers shall be used for the disposal of cloth, sponges, or paper used for surface preparation, cleanup and coating removal.

304.2 VOC-containing materials shall be stored in closed containers when not in use.

304.3 Prior to October 23, 2009 except for electrostatic spray guns, a person shall not use VOC-containing materials for the cleaning of spray guns used in coating operations unless the spray gun is cleaned in an enclosed gun cleaner, or the VOC content of the material used does not exceed 200 grams/liter (1.67 pounds per gallon). The VOC content shall be determined pursuant to Section 502.1.

304.4 Effective October 23, 2009 and prior to October 23, 2010, a person shall not use VOC-containing materials for the cleaning of application equipment used in coating operations unless the application equipment is cleaned in an enclosed gun cleaner, or the VOC content of the material used does not exceed 25 grams/liter (0.21 pounds per gallon). The VOC content shall be determined pursuant to Section 502.1.

304.5 Effective October 23, 2010, a person shall not use VOC-containing materials for the cleaning of application equipment used in coating operations unless the VOC content of the material used does not exceed 25 grams/liter (0.21 pounds per gallon). The VOC content shall be determined pursuant to Section 502.1.

304.6 Prior to October 23, 2009, spray gun nozzles only, may be soaked in solvent-based materials for cleaning, provided the container (not to exceed five (5) gallons in size) is kept tightly covered at all times except when accessing the container.

304.7 A person shall not perform cleaning or surface preparation unless the VOC content of the material used does not exceed 200 grams per liter (1.67 pounds/gallon) or the material has a VOC composite partial vapor pressure of 45 mmHg or less at 68 °F (20 °C), as determined by Sections 502.1 and 502.6.

305 **EMISSION CONTROL SYSTEM REQUIREMENTS:** As an alternative to Section 301, 302 and 304 a person may use air pollution control equipment that has been permitted by the Air Pollution Control Officer, pursuant to Rule 201, General Permitting Requirements, that provides an overall system efficiency, as determined by Section 408, of not less than 85%.

400 ADMINISTRATIVE REQUIREMENTS

401 **LOW USAGE EXEMPTION SUBMITTAL:** The total previous calendar year usage records, as specified in Section 501.3, for all non-compliant materials shall be submitted annually to the Air Pollution Control Officer by January 31.

402 **PROHIBITION OF SPECIFICATION:** No person shall require for use or specify the application of a coating subject to this Rule if such use or application results in a violation of any of the provisions of this Rule. The prohibition of this Section shall apply to all written or oral contracts under the terms of which any coating is to be applied to any aerospace component at any physical location within the District.

403 **PRODUCT INFORMATION REQUIREMENTS FOR SELLERS:** Any person who sells any coating, coating remover (stripper), surface preparation and cleaning material or application equipment cleanup material subject to this rule shall provide the following information on material data sheets made available to the purchaser at the time of sale:

403.1 The material type by name/code/manufacturer

403.2 For coating material, the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), excluding water and exempt compounds, pursuant to Section 404.

- 403.3 For coating removers (strippers), surface preparation and cleaning material, and application equipment cleanup material the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer, and the VOC composite partial vapor pressure. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), including water and exempt compounds, pursuant to Section 405. The VOC composite partial pressure shall be displayed in mmHg @ 20 °C.
- 403.4 For all material, recommendations regarding thinning, reducing, or mixing with any VOC containing material, as defined in Section 263.
- 403.5 For all material, VOC content may be calculated using product formulation data, or may be determined using the test method in Section 502.1.
- 403.6 The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in Section 502.6.

- 404 **CALCULATION FOR DETERMINING VOC CONTENT OF COATINGS, LESS WATER AND EXEMPT COMPOUNDS:** The volume of coating material is defined as the volume of the original coating, plus any VOC-containing material added to the original coating. The weight of VOC per combined volume of VOC and coating solids shall be calculated by the following equation:

$$G_1 = \frac{(W_v - W_w - W_{ec})}{(V_m - V_w - V_{ec})}$$

- Where: G_1 = Weight of VOC per total volume of coating, less water and exempt compounds, in grams per liter
- W_v = Weight of all volatile compounds including any volatile materials added to the original coating supplied by the manufacturer, in grams
- W_w = Weight of water, in grams
- W_{ec} = Weight of compounds listed as exempt in Section 222 from the definition of VOC, in grams
- V_m = Volume of coating material, in liters
- V_w = Volume of water, in liters
- V_{ec} = Volume of compounds listed as exempt in Section 222 from the definition of VOC, in liters

- 405 **CALCULATION FOR DETERMINING VOC CONTENT OF COATING REMOVERS (STRIPPERS), SURFACE PREPARATION AND CLEANING MATERIALS AND APPLICATION EQUIPMENT CLEANUP MATERIALS:** The volume of material is defined as the volume of the original material, plus any VOC-containing material added to the original material. The weight of VOC per total volume of material shall be calculated by the following equation;

$$G_1 = \frac{(W_v - W_w - W_{ec})}{V_m}$$

- Where: G_1 = Weight of VOC per total volume of material, in grams per liter
- W_v = Weight of all volatile compounds, in grams
- W_w = Weight of water, in grams
- W_{ec} = Weight of exempt compounds as listed in Section 222, in grams
- V_m = Volume of material, in liters

- 406 **CALCULATION FOR DETERMINING VOLATILE ORGANIC COMPOUND COMPOSITE PARTIAL VAPOR PRESSURE:** VOC composite partial vapor pressure shall be calculated by the following equation:

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i)/MW_i}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

- Where: PP_c = VOC composite partial vapor pressure at 20°C, in mm Hg.
 W_i = Weight of the "i"th VOC compound, in grams, as determined by ASTM E 260-96 (2006).
 W_w = Weight of water, in grams as determined by ASTM D 3792-05.
 W_e = Weight of the "e"th exempt compound, in grams, as determined by ASTM E 260-96 (2006).
 MW_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.
 MW_w = Molecular weight of water, 18 grams per g-mole.
 MW_e = Molecular weight of the "e"th exempt compound, in grams per g-mole, as given in chemical reference literature.
 VP_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg, as determined by Section 502.7 of this rule.

- 407 **CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the respective VOC mass concentration and volumetric flowrate, pursuant to Section 502.4 and the following equation:

$$M = (Q)(C)(60 \text{ min/hr}) \quad [\text{Calculated upstream and downstream}]$$

- Where: M = VOC mass emission rate (upstream and downstream), in lbs/hr
 Q = the volumetric flowrate at the inlet (upstream) or exhaust stack outlet (downstream), in scfm.
 C = the VOC mass concentration at the inlet (upstream) or outlet (downstream), in lb/scf, as measured by EPA Method 18, 25, 25A, EPA Method 2 or 2C (whichever is applicable).

The percent control efficiency is calculated as follows:

$$\%CE = [(M_U - M_D) / M_U] \times 100$$

- Where: CE = control efficiency.
 M_U = the upstream VOC mass emission rate, in lb/hr.
 M_D = the downstream VOC mass emission rate, in lb/hr.

- 408 **CALCULATION FOR DETERMINING OVERALL SYSTEM EFFICIENCY:** To verify compliance with Section 305, the overall system efficiency is calculated as follows:

$$\%SE = [\%CLE \times \%CE] / 100$$

- Where: SE = system efficiency.

CLE	=	collection efficiency, as determined by Section 502.5
CE	=	control efficiency, as determined by Sections 407 and 502.4

409 **OPERATION AND MAINTENANCE PLAN:** Any person using an approved emission control device pursuant to Section 305 must submit an Operation and Maintenance Plan for the emission control equipment to the Air Pollution Control Officer for approval. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation and compliance of the emission control equipment during periods of emissions-producing operations. The Plan shall also specify which records must be kept to document these operation and maintenance procedures. These records shall comply with the requirements of Section 501. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

500 MONITORING AND RECORDS

501 **RECORDKEEPING FOR END USERS:** In addition to any existing permit conditions issued pursuant to Rule 201, any person subject to this rule, including operations claiming exemption under Sections 110, 112 and 113 shall comply with the following requirements:

501.1 **LIST OF MATERIALS:** A list shall be maintained of currently used coatings, coating removers (strippers), surface preparation and cleaning materials, application equipment cleanup materials and other VOC containing materials including, but not limited to thinners, reducers, hardeners, retarders, catalysts, etc. The list shall contain all such materials that are currently used and stored on site and shall include the following information:

- a. The material type by name/code/manufacturer and the appropriate category as designated by the coating categories in Sections 301, 302 and 304 or "exempt" as specified by Sections 112 and 113, as applicable.
- b. The actual VOC content of the material, as applied, as determined pursuant to Section 502.1, and for coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material, the VOC composite partial vapor pressure. VOC content as provided by the manufacturer pursuant to Section 403 is acceptable, if following manufacturer's recommended mix ratio. The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in Section 502.6.
- c. The actual mixing ratio used for the material, as applied.
- d. Identification of each material type exceeding the VOC limits specified in Sections 301 and 302 or the VOC composite partial vapor pressure limits specified in Section 302.

501.2 **PRODUCT INFORMATION:** A data sheet applicable to each material type shall be maintained on site and made available to the Air Pollution Control Officer on request. The data sheet shall be provided by the supplier to the end user, pursuant to Section 403, and shall include the following information:

- a. The material type by name/code/manufacturer.
- b. For coating material: the maximum VOC content of the coating material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), excluding water and exempt compounds, pursuant to Section 404.
- c. For coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer, and the VOC composite partial vapor pressure. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), including water and exempt compounds, pursuant to Section 405. The VOC composite partial pressure shall be displayed in mmHg @ 20°C.

- d. For all material, recommendations regarding thinning, reducing, or mixing with any VOC containing material, as defined in Section 263.
- e. For all material, VOC content may be calculated using product formulation data, or may be determined using the test method in Section 502.1.
- f. The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in Section 502.6.

501.3 **USAGE RECORDS:** Any person within the District using materials regulated by this rule shall update and maintain the records as follows:

- a. Monthly:
 - 1. Records of total applied volume for each coating, coating remover (stripper), surface preparation and cleaning material and application equipment cleanup material, specified by category as listed in Sections 301, 302 and 304.
 - 2. The method of application, specified by coating category as listed in Sections 301 and 302, or by exemption pursuant to Section 112, as applicable.
 - 3. Records of total applied volume for each material type exceeding the VOC limits specified in Sections 301 and 302 or the VOC composite partial vapor pressure limits specified in Section 302 by name/code/manufacturer and coating category.
- b. Daily:
 - 1. If, pursuant to Section 305, an emission control device is used as a means of complying with this rule, records of the material type by name/code/manufacturer and the total applied volume of each material.
 - 2. For non-compliant coatings, as defined in Section 237, records regarding the use, including the lack of use, of each material type by name/code/ and the total applied volume of each material.

501.4 **CONTROL EQUIPMENT:** Any person using an emission control system pursuant to Section 305 as a means of complying with this rule shall maintain such records as required by the Operation and Maintenance Plan in Section 409 on a daily basis.

501.5 **DURATION OF RECORDS:**

- a. Prior to October 23, 2010, such records shall be maintained on-site for the most recent continuous three year period.
- b. Effective October 23, 2010, such records shall be maintained on-site for a continuous five-year period and made available for review by the Air Pollution Control Officer upon request.

502 TEST METHODS

502.1 **DETERMINATION OF VOC CONTENT:** VOC content of coatings, coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material shall be determined in accordance with EPA Method 24 and Sections 404, or 405 and 502.3 of this rule.

502.2 **DETERMINATION OF ACID CONTENT:** The weight percent acid in a pretreatment wash primer shall be determined in accordance with ASTM D 1613-06.

502.3 **DETERMINATION OF COMPOUNDS EXEMPT FROM VOC DEFINITION:** Compounds exempted from the VOC definition, as listed in Section 221 of this rule, shall be determined in accordance with ASTM D 4457-02 (2008) or ARB Method 432. If any of the perfluorocarbons are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.

502.4 **DETERMINATION OF CONTROL EFFICIENCY:** Control efficiency of control equipment shall be determined in accordance with EPA Method 18, 25, 25A, EPA Method 2 or 2C (whichever is applicable) and Section 407.

502.5 **DETERMINATION OF COLLECTION EFFICIENCY:** Collection efficiency shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual

capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:

- a. Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or
- b. Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.

502.6 **DETERMINATION OF VOC COMPOSITE PARTIAL VAPOR PRESSURE:** VOC composite partial vapor pressure shall be determined in accordance with Sections 406 and 502.7 of this rule.

502.7 **VAPOR PRESSURE:** The vapor pressure shall be determined using ASTM Method D2879-97 (2007) or may be obtained from the most current edition of standard engineering reference texts, including but not limited to:

- a. *The Vapor Pressure of Pure Substances*, Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York.
- b. *Perry's Chemical Engineer's Handbook*, McGraw-Hill Book Company.
- c. *CRC Handbook of Chemistry and Physics*, Chemical Rubber Publishing Company.
- d. *Lange's Handbook of Chemistry*, John Dean, editor, McGraw-Hill Book Company.

502.8 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

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**SACAQMD RULE 458 LARGE COMMERCIAL BREAD BAKERIES
LAST REVISED 09/05/96**

RULE 458

LARGE COMMERCIAL BREAD BAKERIES

Adopted 6-7-94

(Amended 9-5-96)

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100 GENERAL

101 **PURPOSE:** To limit the emission of volatile organic compounds from bread ovens at large commercial bread bakeries.

110 **EXEMPTION, SMALL BAKERIES:** This rule shall not apply to bakeries whose total VOC emissions for each and every operating day are less than 100 pounds, as determined by Section 405.

111 **EXEMPTION, CHEMICALLY LEAVENED PRODUCTS:** This rule does not apply to equipment used exclusively for the baking of bakery products leavened chemically in the absence of yeast.

200 DEFINITIONS

201 **BREAD:** A perishable foodstuff prepared from a yeast-leavened dough which is baked into products commonly referred to as pan bread, buns, rolls, or other similar yeast-leavened products.

202 **EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.

203 **LARGE COMMERCIAL BREAD BAKERY:** Any bakery producing equal to or more than 100 pounds of VOC per operating day.

204 **LEAVEN:** To raise a dough by causing gas to thoroughly permeate it through the use of a chemical agent such as baking powder or a fermentation-producing agent such as yeast.

205 **OVEN:** An enclosed compartment supplied with heat, typically from the combustion of natural gas, used to bake bread, buns, and rolls. This does not include proofing boxes.

206 **PROOFING BOX:** A warm (typically about 100o F), humid chamber where yeast-leavened dough is allowed to rise to the volume desired for baking.

207 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.

300 STANDARDS

301 **EMISSION CONTROL REQUIREMENTS, NEW AND EXISTING OVENS:** All ovens shall vent emissions to a control system meeting the following standards:

301.1 An emissions collection system shall capture emissions from all oven stacks.

301.2 Collected emissions shall be vented to an approved emission control device which has a control efficiency of at least 95% on a mass basis, as determined pursuant to Section 502.1 of this rule.

400 ADMINISTRATIVE REQUIREMENTS

401 OPERATION AND MAINTENANCE PLAN: Any person required to use an emissions control device pursuant to Section 301 must submit an Operation and Maintenance Plan for the emissions control device to the Air Pollution Control Officer for approval. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation of the emissions control device, pursuant to Section 301, during periods of emissions-producing operations. The Plan shall also specify which daily records must be kept to document these operation and maintenance procedures. These records shall comply with the requirements of Sections 501.1 and 501.2. The Plan shall be implemented upon approval by the Air Pollution Control Officer.

402 PROCEDURE FOR PROCESSING OPERATION AND MAINTENANCE PLAN:

402.1 APPROVAL OF PLAN: The Air Pollution Control Officer shall determine whether the Operation and Maintenance Plan meets the requirements of Section 401 not later than 30 days after receipt of the Plan, or within a longer period of time agreed upon by the parties. The Air Pollution Control Officer shall approve an Operation and Maintenance Plan unless it fails to demonstrate continuous operation of the emissions control device during periods of emissions-producing operations, according to the standards set forth in Section 301, and/or it fails to specify which daily records, in accordance with the requirements of Sections 501.1 and 501.3, are kept to document the operation and maintenance procedures set forth in the Plan.

402.2 REVISION OF PLAN: If the Air Pollution Control Officer does not approve an Operation and Maintenance Plan, the source shall receive written notice of the deficiency, and shall have an additional 30 days from the date of the notification of the deficiency to correct and resubmit the Operation and Maintenance Plan. The decision of the Air Pollution Control Officer regarding the resubmitted Operation and Maintenance Plan shall be final. Failure to correct the deficiency in an Operation and Maintenance Plan upon resubmittal shall constitute a violation of this rule that is subject to the penalties set forth in Health and Safety Code section 42400 et seq.

403 COMPLIANCE SCHEDULE:

403.1 For all bakeries subject to this rule with total VOC emissions greater than or equal to 25 tons per year, the application for Authority to Construct an emission control device must be submitted pursuant to Rule 201, General Permit Requirements, with the Operation and Maintenance Plan by August 7, 1994. For all bakeries subject to this rule with total VOC emissions less than 25 tons per year, the application for Authority to Construct an emission control device must be submitted pursuant to Rule 201, General Permit Requirements, with the Operation and Maintenance Plan by November 7, 1995.

403.2 Operation and Maintenance Plans for emissions control devices installed as of June 7, 1994, if not previously submitted, must be submitted by December 7, 1994, and receive approval by the Air Pollution Control Officer.

403.3 Effective May 31, 1995, all ovens, except those exempt pursuant to Sections 110, 111, and 403.4, shall be in compliance with this rule.

403.4 Effective June 7, 1996, all bakeries with total VOC emissions of less than 25 tons per year shall be in compliance with this rule.

404 CALCULATION FOR VOC MASS EMISSION RATE AND PERCENT CONTROL EFFICIENCY: The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the respective VOC mass concentration and volumetric flowrate, pursuant to Section 502.1 and the following equation:

$$M = (Q)(C)(60 \text{ min/hr})$$

Where:

M = VOC mass emission rate, in lb/hr.

Q = the volumetric flowrate of the exhaust stack, in scfm.

C = the VOC mass concentration, in lb/scf, as measured by EPA Method 25.

The percent control efficiency is calculated as follows:

$$\% \text{ CE} = (\text{MU} - \text{MD}) \div \text{MU}$$

Where:

CE = control efficiency.

MU = the upstream VOC mass emission rate, in lb/hr.

MD = the downstream VOC mass emission rate, in lb/hr.

405 CALCULATION FOR SMALL BAKERIES EXEMPTION: VOC emissions to determine exemption status pursuant to Section 110 of this rule shall be calculated using the following equation:

$$\text{VOC} = (\text{P})(0.95\text{Y} + 0.195\text{T} - 0.51\text{S} - 0.86\text{ST} + 1.90)$$

Where:

VOC = emissions in pounds per day

P = tons of product per day

Y = initial baker's percent of yeast

T = total yeast action time in hours

S = final (spike) baker's percent of yeast

ST = spiking time in hours

500 MONITORING AND RECORDS

501 USAGE RECORDS: In addition to any existing permit conditions issued pursuant to Rule 201, any person subject to this rule shall comply with the following requirements:

501.1 CONTROL EQUIPMENT: Any person using an emission control system pursuant to Section 300 shall maintain such records as required by the Operation and Maintenance Plan in Section 401 on a daily basis.

501.2 LIST OF PRODUCT: A current list of products shall be kept which includes, for each product, the initial baker's percent of yeast, the total yeast action time, the final (spike) baker's percent of yeast, and the spiking time.

501.3 DURATION OF RECORDS: Such records shall be maintained on-site for a continuous two-year period and made available to the Air Pollution Control Officer upon request.

502 TEST METHODS

502.1 DETERMINATION OF CONTROL EFFICIENCY: Control efficiency of the emissions control device shall be determined in accordance with EPA Method 18, 25, 25A, EPA Method 2 or 2C (whichever is applicable), and Section 404.

**RULE 459 AUTOMOTIVE, MOBILE EQUIPMENT, AND ASSOCIATED PARTS AND COMPONENTS
COATING OPERATIONS**

Adopted 12-7-95

(Amended 3-7-96, 9-5-96, 10-2-97, 8-25-11)

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100 GENERAL

- 101 **PURPOSE:** To limit the emission of volatile organic compounds into the atmosphere from coatings and solvents associated with the coating of motor vehicles, mobile equipment and associated parts and components.
- 102 **APPLICABILITY:** The provisions of this rule shall apply to any person who supplies, sells, offers for sale, manufactures, or distributes any automotive coating or associated solvent for use within the District, as well as any person who uses, applies, or solicits the use or application of any automotive coating or associated solvent within the District. The provisions of Rule 441, Organic Solvents, shall not apply to persons using automotive coatings and solvents subject to this rule.
- 110 **EXEMPTION, RESTORATIONS OF SPECIAL INTEREST VEHICLES AND STREET ROD VEHICLES:** Prior to February 25, 2012, the requirements of Sections 301, 310.3, and 310.5 shall not apply to coatings and surface preparation and cleanup materials used in the restoration of special interest vehicles as defined in Section 5051(b) of Division 3 of the California Vehicle Code or street rod vehicles as defined in Section 5051(d) of Division 3 of the California Vehicle Code providing that the total usage of these coatings (including, but not limited to thinners, reducers, hardeners, retarders and catalysts), coating removers (strippers), surface preparation materials, and cleanup material does not exceed 10 gallons in a calendar year. The recordkeeping requirements in Section 502.3 shall apply to the coating of special interest vehicles as defined in Section 5051(b) of Division 3 of the California Vehicle Code or street rod vehicles as defined in Section 5051(d) of Division 3 of the California Vehicle Code. This exemption will sunset on February 25, 2012.
- 111 **EXEMPTION, AEROSOL COATING PRODUCT:** The requirements of this rule shall not apply to any aerosol coating product.
- 112 **EXEMPTION, APPLICATION METHODS:** The requirements of Section 306 of this rule shall not apply to the application of any coating use of no more than one fluid ounce when applied from a container with a capacity of no more than one fluid ounce, of underbody coatings, truck bed liner coatings, or graphic arts operations.
- 113 **EXEMPTION, ASSEMBLY LINE:** The requirements of this rule shall not apply to any coating applied to motor vehicles or mobile equipment, or their associated parts and components, during manufacture on an assembly line at an original equipment manufacturing plant.
- 114 **EXEMPTION: RADIATORS, DRIVE TRAIN, DIFFERENTIAL, AND ENGINE COMPONENTS:** Prior to February 25, 2012, the provisions of this rule shall not apply to the coating of radiators, drive train, differential, and engine components which are subject to the provisions of Rule 451, SURFACE COATING OF MISCELLANEOUS METAL PARTS AND PRODUCTS. This exemption will sunset on February 25, 2012.
- 115 **EXEMPTION, TOUCH-UP:**
- 115.1 Prior to February 25, 2012, the provisions of this rule shall not apply to the sale or use of touch-up coatings dispensed in containers of two ounces or less. This exemption will sunset on February 25, 2012.
- 115.2 Effective February 25, 2012, the provisions of this rule shall not apply to any automotive coating that is sold, supplied, or offered for sale in containers of 0.5 fluid ounce or less intended to be used by the general public to repair tiny surface imperfections.
- 116 **EXEMPTION, MATERIALS FOR VEHICLES:** The requirements of Section 303 shall not apply to any motor vehicle, mobile equipment, or associated parts and components coating operations at a stationary source with actual emissions less than 2.7 tons of VOC per 12-month rolling period prior to emissions control equipment from the total of all of the following coatings and coating operations:

- 116.1 Truck bed liner coatings and underbody coatings subject to Section 302;
 - 116.2 Vehicle materials subject to Section 303;
 - 116.3 Coating operations for miscellaneous metal parts and products as defined in Rule 451 – SURFACE COATING OF MISCELLANEOUS METAL PARTS AND PRODUCTS; and
 - 116.4
 - a. Effective prior to the adoption of Rule 468 – SURFACE COATING OF MISCELLANEOUS PLASTIC PARTS AND PRODUCTS, BUSINESS MACHINE AND TRANSPORTATION PLASTIC PARTS, AND PLEASURE CRAFT, coating operations for miscellaneous plastic parts and products, transportation and business machine plastic parts, and pleasure craft as defined in Sections 212, 245, 252, and 267. (This section will sunset upon adoption of Rule 468).
 - b. Effective upon adoption of Rule 468, coating operations for miscellaneous plastic parts and products, transportation and business machine plastic parts, and pleasure craft as defined in Rule 468 – SURFACE COATING OF MISCELLANEOUS PLASTIC PARTS AND PRODUCTS, BUSINESS MACHINE AND TRANSPORTATION PLASTIC PARTS, AND PLEASURE CRAFT.
- 117 **SEVERABILITY:** If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.

200 DEFINITIONS

- 201 **ADHESION PROMOTER:**
- 201.1 For automotive coating facilities subject to the requirements of Section 301, any coating applied over both an existing non-sanded topcoat and the coated area immediately adjacent to the non-sanded topcoat, to promote the adhesion of a subsequent topcoat. No topcoat, primer, or primer sealer shall be classified as an adhesion promoter. (This definition will sunset on February 25, 2012).
 - 201.2 For automotive coating facilities subject to the requirements of Section 302, any coating which is labeled and formulated to be applied to uncoated plastic surfaces to facilitate bonding of subsequent coatings, and on which, a subsequent coating is applied.
- 202 **AEROSOL COATING PRODUCT:** A pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic/marketing applications.
- 203 **ANTIGLARE/SAFETY COATING:** Any coating which minimizes light reflection for safety purposes. (This definition will sunset on February 25, 2012).
- 204 **APPLICATION EQUIPMENT:** Any device used to apply coatings or used in preparing a coating material for application such as stir sticks or funnels.
- 205 **ASSEMBLY LINE:** An arrangement of industrial equipment and workers in which the product passes from one specialized operation to another until complete, by either automatic or manual means.
- 206 **ASSOCIATED PARTS AND COMPONENTS:** Any structures, devices, pieces, modules, sections, assemblies, subassemblies, or elements of motor vehicles or mobile equipment that are designed to be part of motor vehicles or mobile equipment but which are not attached to motor vehicles or mobile equipment at the time of coating the structure, device, module, section, assembly, subassembly, or element. Associated parts and components do not

include circuit boards. Some examples include truck trailers, radiators, engine blocks, and camper shells.

- 207 **AUTOMOTIVE COATING:** Any coating or coating component used or recommended for use in motor vehicle or mobile equipment coating, service, maintenance, repair, restoration, or modification, except metal plating activities. Any reference to automotive coating or refinishing made by a person on the container or in product literature constitutes a recommendation for use in motor vehicle or mobile equipment coating. For the purposes of this rule, motor vehicle materials listed in Section 303 are considered to be coatings.
- 208 **AUTOMOTIVE COATING COMPONENT:** Any portion of a coating, including, but not limited to, a reducer or thinner, toner, hardener, and additive, which is recommended by any person to distributors or end-users for use in an automotive coating, or which is supplied for or used in an automotive coating. The raw materials used to produce the components are not considered automotive coating components.
- 209 **AUTOMOTIVE COATING FACILITY:** Any shop, business, location, or parcel of land where complete and incomplete motor vehicles or mobile equipment or their associated parts and components are coated.
- 210 **BASE COAT:** A pigmented coating applied as part of a multistage coat system. (This definition will sunset on February 25, 2012).
- 211 **BRIGHT METAL TRIM REPAIR COATING:** Any coating applied directly to chrome-plated metal surfaces for the purpose of appearance. (This definition will sunset on February 25, 2012).
- 212 **BUSINESS MACHINE PLASTIC PART:** A plastic part of 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, including devices listed in standard industrial classification numbers 3572, 3573, 3574, 3579, and 3661 and photocopy machines, a subcategory of standard industrial classification number 3861. (This definition will sunset upon adoption of Rule 468).
- 213 **CAMOUFLAGE COATING:** Any coating applied to motor vehicles to conceal such vehicles from detection. (This definition will sunset on February 25, 2012).
- 214 **CATALYST:** Any substance whose presence initiates the reaction between chemical compounds. (This definition will sunset on February 25, 2012).
- 215 **CAVITY WAX:** A material or coating applied into cavities of the vehicle primarily for the purpose of enhancing corrosion protection.
- 216 **CLEANING OPERATIONS:** The removal of loosely held uncured adhesives, inks, coatings, or contaminants, including, but not limited to, dirt, soil, or grease, from motor vehicles, mobile equipment, associated parts and components, substrates, parts, products, tools, machinery, equipment (including application equipment) or general work areas.
- 217 **CLEAR COATING:** Any coating that contains no pigments and is labeled and formulated for application over a color coating or clear coating.
- 218 **CLOSED CONTAINER:** A container which has a cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 219 **COATING:** Any material which is applied to a surface and forms a film in order to beautify, preserve, repair, or protect such a surface.

- 220 **COATING REMOVER (STRIPPER):** A material applied to the surface to completely remove maskants, coatings or coating residues. A coating remover (stripper) is not a solvent. Material used for the removal of overspray or to clean application equipment is considered a solvent, not a coating remover.
- 221 **COLOR COATING:** Any pigmented coating, excluding adhesion promoters, primers, and multi-color coatings, that requires a subsequent clear coating and which is applied over a primer, adhesion promoter, or color coating. Color coatings include metallic/iridescent color coatings.
- 222 **COLOR MATCH:** The ability of a repair coating to blend into an existing coating so that color difference is not visible. (This definition will sunset on February 25, 2012).
- 223 **DEADENER:** A material or coating applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment.
- 224 **DRIVETRAIN:** The components related to the driveline, including the universal joint and the drive shaft that connect the transmission with the driving axles of an automobile. (This definition will sunset on February 25, 2012).
- 225 **ELASTOMERIC MATERIALS:** Any coatings which are specifically formulated and applied over coated or uncoated flexible plastic substrates for the purpose of adhesion. (This definition will sunset on February 25, 2012).
- 226 **ELECTROSTATIC SPRAY APPLICATION:** Any method of spray application of coatings where an electrostatic attraction is created between the part to be coated and the paint particles.
- 227 **EMISSION CONTROL SYSTEM:** Any combination of capture systems and control devices used to reduce VOC emissions from automotive coating operations.
- 228 **ENCLOSED GUN CLEANER:**
228.1 A device that is used for the cleaning of spray guns, cups, pots and hoses, that has an enclosed solvent container, is not open to the ambient air when in use, and has a mechanism to force the solvent through the gun while the cleaner is in operation; or
228.2 A device that is used for the cleaning of spray guns, cups, pots and hoses, that has an enclosed solvent container, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the enclosed container. (This definition will sunset on February 25, 2012).
- 229 **END USER:** Any person using or applying any coating, coating remover (stripper), or solvent subject to this rule.
- 230 **EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 231 **GASKET/GASKET SEALING MATERIAL:** Any fluid applied to coat a gasket or replace and perform the same function as a gasket including room temperature vulcanization seal material.
- 232 **GRAPHIC ARTS OPERATION:** The application of logos, letters, numbers, or graphics to a painted surface by brush, roller, or airbrush.
- 233 **GROUND COAT:** An opaque, pigmented coat used under partially transparent finishes to cover up a different-hued undercoat and used as part of a four-stage topcoat system. (This definition will sunset on February 25, 2012).

- 234 **GROUP I VEHICLES:** Passenger cars, heavy duty truck cabs and chassis, light/medium duty vehicles (including utility bodies), and motorcycles. (This definition will sunset on February 25, 2012).
- 235 **GROUP II VEHICLES:** Buses, military vehicles, and mobile equipment. (This definition will sunset on February 25, 2012).
- 236 **HEAVY DUTY TRUCK:** Any truck having a manufacturer's gross vehicle weight rating of over 10,000 pounds. (This definition will sunset on February 25, 2012).
- 237 **HIGH-VOLUME, LOW-PRESSURE (HVLP) EQUIPMENT:** Spray equipment which is designed and operated between 0.1 and 10 pounds per square inch, gauge (psig) air atomizing pressure measured dynamically at the center of the air cap and at the air horns.
- 238 **IMPACT-RESISTANT COATING:** Any coating designed to resist chipping caused by road debris. (This definition will sunset on February 25, 2012).
- 239 **LIGHT/MEDIUM DUTY VEHICLES:** Any vehicle having a manufacturer's gross vehicle weight rating of 10,000 pounds or less. (This definition will sunset on February 25, 2012).
- 240 **LOW-VOLUME, LOW-PRESSURE (LVLP) EQUIPMENT:** Spray coating application equipment with air pressure between 0.1 and 10 pounds per square inch gauge (psig) and air volume less than 15.5 cfm per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 241 **LUBRICATING WAX/COMPOUND:** Any protective lubricating material applied to vehicle hubs and hinges.
- 242 **METALLIC/IRIDESCENT COLOR COATING:** Any coating that contains more than 5 g/l (0.042 lb/gal) of metal or iridescent particles, as applied, where such particles are visible in the dried film.
- 243 **MID COAT:** Any semi-transparent topcoat which is the middle topcoat applied as part of three-stage or four-stage topcoat systems. (This definition will sunset on February 25, 2012).
- 244 **MILITARY VEHICLE:** A vehicle or a transportable structure which is owned, operated, or maintained by the United States Department of Defense or the National Guard. The structure may be motorized, or non-motorized but intended for towing by a motorized vehicle. (This definition will sunset on February 25, 2012).
- 245 **MISCELLANEOUS PLASTIC PARTS AND PRODUCTS:** Any parts or products constructed either entirely or partially from plastic that are not defined as transportation plastic parts, business machine plastic parts, or parts of a pleasure craft, including but not limited to, molded plastic parts, industrial and household products, plumbing and marine parts or products, sporting goods, toys, and other consumer products. (This definition will sunset upon adoption of Rule 468).
- 246 **MOBILE EQUIPMENT:** Any device that may be drawn and/or driven on rails or a roadway including, but not limited to, trains, railcars, truck trailers, mobile cranes, bulldozers, street cleaners, portable generators, and agricultural equipment.
- 247 **MOTOR VEHICLE:** Any self-propelled vehicle, including, but not limited to, cars, trucks, buses, golf carts, vans, motorcycles, tanks, and armored personnel carriers.
- 248 **MULTI-COLOR COATING:** Any coating that exhibits more than one color in the dried film after a single application, is packaged in a single container, and hides surface defects on areas of heavy use, and which is applied over a primer or adhesion promoter.

249 **MULTI-STAGE TOPCOAT SYSTEM:** A topcoat system composed of either a base coat/clear coat (two stage system), a base coat/mid coat/clear coat (three stage system), or a ground coat/base coat/mid coat/clear coat (four stage system). The calculation for the volatile organic compound content for the various coating systems shall be as follows:

249.1 The volatile organic compound content of a two-stage coating system shall be calculated according to the following formula:

$$VOC_{TOTAL} = \frac{VOC_{BC} + 2VOC_{CC}}{3}$$

249.2 The volatile organic compound content of a three stage coating system shall be calculated according to the following formula:

$$VOC_{TOTAL} = \frac{VOC_{BC} + VOC_{MC} + 2VOC_{CC}}{4}$$

249.3 The volatile organic compound content of a four stage coating system shall be calculated according to the following formula:

$$VOC_{TOTAL} = \frac{VOC_{GC} + VOC_{BC} + VOC_{MC} + 2VOC_{CC}}{5}$$

Where: VOC_{TOTAL} is the sum of the volatile organic compound content, as applied, and used to determine compliance with the standards in Section 301.

VOC_{GC} is the volatile organic compound content, as applied, of a ground coat.

VOC_{BC} is the volatile organic compound content, as applied, of a base coat.

VOC_{MC} is the volatile organic compound content, as applied, of a mid coat.

$2VOC_{CC}$ is two times the volatile organic compound content, as applied, of a clear coat.

(This section will sunset on February 25, 2012).

250 **ORIGINAL EQUIPMENT MANUFACTURING PLANT:** A facility where new motor vehicle or new mobile equipment is completely assembled, including coating of new motor vehicles or new mobile equipment or their associated parts and components.

251 **PERMANENTLY LABELED:** Spray equipment labeled by the manufacturer such that the end user cannot alter it. Permanent labeling is in the form of engraved markings or a plate permanently attached to the spray equipment.

252 **PLEASURE CRAFT:** A vessel which is manufactured or operated primarily for recreational purposes, or leased, rented, or chartered to a person or business for recreational purposes. The owner or operator of such a vessel shall be responsible for certifying that the intended use is for recreational purposes. (This definition will sunset upon adoption of Rule 468).

253 **PRECOAT:** Any coating that dries by oxidation or chemical polymerization excluding lacquer products which is applied to bare metal primarily to deactivate the metal surface prior to application of a primer. (This definition will sunset on February 25, 2012).

254 **PRETREATMENT COATING:** Any coating which contains a minimum of 0.5 percent acid by weight and not more than 16 percent solids by weight necessary to provide surface etching and is labeled and formulated for application directly to bare metal surfaces to provide corrosion resistance and adhesion.

- 255 **PRIMER:** Any coating which is labeled and formulated for application to a substrate to provide: a bond between the substrate and subsequent coats; corrosion resistance; a smooth substrate surface; or resistance to penetration of subsequent coats, and on which a subsequent coating is applied. Primers may be pigmented.
- 256 **PRIMER SEALER:** Any coating which is labeled and formulated for application prior to the application of a color coating for the purpose of color uniformity, or to promote the ability of the underlying coating to resist penetration by the color coating.
- 257 **SINGLE-STAGE COATING:** Any pigmented coating, excluding primers, primer sealers, and multi-color coatings, labeled and formulated for application without a subsequent clear coat. Single-stage coatings include single-stage metallic/iridescent coatings.
- 258 **SOLVENT:** A VOC-containing fluid used to perform cleaning operations.
- 259 **SPECIALTY COATINGS:** Unique coatings with additives which are necessary due to unusual job performance requirements. These coatings are exclusively used as adhesion promoters, uniform finish coatings, elastomeric materials, bright metal trim repair, anti-glare/safety coatings, impact resistance coating, and weld-through primers. These coatings shall be designated by the manufacturer as specialty coatings which require the coatings to perform under certain conditions as specified by the coating definitions in Sections 201, 203, 211, 225, 270, and 275. (This definition will sunset on February 25, 2012).
- 260 **SPOT REPAIR:** Repair of an area on a motor vehicle, piece of mobile equipment, or associated parts or components of less than 1 square foot (929 square centimeters).
- 261 **SPRAY BOOTH:** An enclosure, within which coatings are applied, that has a full roof and four complete walls and is ventilated so that air is drawn into one or more stacks and exhausted vertically through the top and outside of a building.
- 262 **STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission.
- 262.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- a. belong to the same industrial grouping, and
 - b. are located on one property or on two or more contiguous properties, and
 - c. are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.
- 262.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- a. they belong to the same two-digit standard industrial classification code, or
 - b. they are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)
- 262.3 The emissions within District boundaries of cargo carriers associated with the stationary source shall be considered emissions from the stationary source to the extent that emission reductions from cargo carriers are proposed as emission offsets.
- 263 **SURFACE PREPARATION:** A volatile organic compound-containing material applied to the surface of any substrate prior to any coating application or to remove any overspray. (This definition will sunset on February 25, 2012).
- 264 **TEMPORARY PROTECTIVE COATING:** Any coating formulated and effective February 25, 2012, labeled for the purpose of temporarily protecting areas from overspray or mechanical damage.

- 265 **TOPCOAT:** Any coating applied over a primer, primer system, or an original equipment manufacturer finish for the purpose of protection or appearance. (This definition will sunset on February 25, 2012).
- 266 **TRANSFER EFFICIENCY:** The amount of coating solids adhering to the object being coated divided by the total amount of coating solids sprayed, expressed as a percentage.
- 267 **TRANSPORTATION PLASTIC PART:** Any interior or exterior plastic part or component manufactured at an original equipment manufacturing plant for motor vehicles or mobile equipment, excluding plastic parts for cars or motor vehicles designed to transport light loads of property with gross vehicle weight rating of 8,500 pounds or less. (This definition will sunset upon adoption of Rule 468).
- 268 **TRUCK BED LINER COATING:** Any coating, excluding clear, color, multi-color and single stage coatings, labeled and formulated for application to a truck bed to protect it from surface abrasion.
- 269 **UNDERBODY COATING:** Any coating labeled and formulated for application to wheel wells, the inside of door panels or fenders, the underside of a trunk or hood, or the underside of the motor vehicle.
- 270 **UNIFORM FINISH COATING:** Any coating formulated and effective February 25, 2012, labeled for application to the area around a spot repair for the purpose of blending a repaired area's color or clear coat to match the appearance of an adjacent area's existing coating.
- 271 **UTILITY BODY:** A body designed for and mounted on a light or medium duty truck or van excluding camper shells. (This definition will sunset on February 25, 2012).
- 272 **VENDOR:** A retail or wholesale distributor of automotive coating products.
- 273 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS. Tertiary butyl acetate is not considered a volatile organic compound for the purposes of complying with the standards specified in Section 302 when contained in an automotive coating or automotive coating component that is applied only within a spray booth.
- 274 **VOLATILE ORGANIC COMPOUND AS APPLIED:** For the purpose of this rule, volatile organic compound as applied means the volatile organic compound content including thinners, reducers, hardeners, retarders, catalysts and additives calculated pursuant to Sections 409, 410, or 411, as applicable.
- 275 **WELD-THROUGH PRIMER:** A primer that is applied to the surface of the metal prior to welding. (This definition will sunset on February 25, 2012).

300 STANDARDS

- 301 **VEHICLE COATING LIMITS, PHASE I:**
- 301.1 **GROUP I VEHICLES AND GROUP II VEHICLES REQUIRING A COLOR MATCH:**
At an automotive coating facility subject to the requirements of Section 301, as specified in Section 406, a person shall not apply to Group I Vehicles, their parts and components (except as provided for in Section 301.3), or Group II Vehicles where color match as defined in Section 222 is required, any coating with a volatile organic compound content in excess of the following limits. The volatile organic compound content of the applied coating shall be determined as grams of volatile organic compound per liter (pounds of volatile organic compound per gallon) of coating as-applied (including automotive coating components as defined in Section 208) as determined by Sections 504.1 and 504.4:

COATING	VOLATILE ORGANIC COMPOUND CONTENT g/l (lbs/gal), less water and exempt compounds
	Effective: See Section 406
Precoat	600 (5.0)
Pretreatment Coating	780 (6.5)
Primer	250 (2.1)
Primer Sealer	420 (3.5)
Solid Color Topcoat	420 (3.5)
Metallic/Iridescent Coating	520 (4.3)
Multi-stage Topcoat System	540 (4.5)
Underbody Coating	540 (4.5)
Specialty Coating	840 (7.0)

* This section will sunset on February 25, 2012.

COATING	VOLATILE ORGANIC COMPOUND CONTENT g/l (lbs/gal)
	Effective: See Section 406
Temporary Protective Coating	60 (0.5)

* This section will sunset on February 25, 2012.

- 301.2 **GROUP II VEHICLES NOT REQUIRING A COLOR MATCH:** At an automotive coating facility subject to the requirements of Section 301, as specified in Section 406, a person shall not apply to Group II vehicles, or their parts and components where color match is not required, any coating with a volatile organic compound content in excess of the following limits. Volatile organic compound content of the applied coating shall be determined as grams of volatile organic compound per liter (pounds of volatile organic compound per gallon) of coating as-applied (including automotive coating components as defined in Section 208) as determined by Sections 504.1 and 504.3:

COATING	VOLATILE ORGANIC COMPOUND CONTENT g/l (lbs/gal), less water and exempt compounds
	Effective: See Section 406
Precoat	600 (5.0)
Pretreatment Coating	780 (6.5)
Primer	250 (2.1)
Underbody Coating	540 (4.5)
Topcoat	420 (3.5)
Metallic/Iridescent Coating	420 (3.5)
Camouflage Coating	420 (3.5)
Specialty Coating	840 (7.0)

* This section will sunset on February 25, 2012.

COATING	VOLATILE ORGANIC COMPOUND CONTENT g/l (lbs/gal)
	Effective: See Section 406
Temporary Protective Coating	60 (0.5)

* This section will sunset on February 25, 2012.

301.3 UTILITY BODY REQUIREMENTS:

- a. At an automotive coating facility subject to the requirements of Section 301, the standards set forth in Section 301.1 shall apply to the coating of utility bodies provided:
 1. The coating is required to match that of the vehicles upon which they will be mounted, and;
 2. The coating of utility bodies is less than or equal to 20 utility bodies per day per stationary source. Coating of part of a utility body is considered one utility body.
- b. If the conditions of 301.3.a.1 and 2 are not met then the coating of utility bodies is subject to Section 301.2.

This section will sunset on February 25, 2012.

- 302 **VEHICLE COATING LIMITS, PHASE II:** At an automotive coating facility subject to the requirements of this section, no person shall apply to any motor vehicle, mobile equipment, or associated parts and components, any coating with a VOC regulatory content, as calculated pursuant to Section 409, in excess of the following limits:

COATING	VOC Regulatory Limit As Applied g/l (lbs/gal), Effective: See Section 406
Adhesion Promoter	540 (4.5)
Clear Coating	250 (2.1)
Color Coating	420 (3.5)
Multi-color Coating: Mobile equipment driven or drawn on rails and its associated parts and components	520 (4.3)
Any other mobile equipment or motor vehicle and its associated parts and components	680 (5.7)
Pretreatment Coating	660 (5.5)
Primer/Primer Sealer	250 (2.1)
Single-Stage Coating	340 (2.8)
Temporary Protective Coating	60 (0.5)
Truck Bed Liner Coating	200 (1.7)
Underbody Coating	430 (3.6)
Uniform Finish Coating	540 (4.5)
Any Other Coating Type, Excluding Materials Listed in Section 303	250 (2.1)

- 303 **VEHICLE MATERIAL LIMITS:** Effective February 25, 2012, no person shall apply to any motor vehicle any of the following materials with a VOC regulatory content, as calculated pursuant to Section 409, in excess of the following limits:

MATERIAL	VOC Regulatory Limit As Applied g/l (lbs/gal), Effective: February 25, 2012
Gasket/Gasket Sealing Material	200 (1.7)
Cavity Wax	650 (5.4)
Deadener	650 (5.4)
Lubricating Wax/Compound	700 (5.8)

- 304 **MOST RESTRICTIVE VOC LIMIT:** At an automotive coating facility subject to the requirements of Section 301 or 302, if anywhere on the container of any automotive coating, or any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a person, any representation is made that indicates that the coating meets the definition of or is recommended for use for more than one of the coating categories listed in Section 301 or 302, then the lowest VOC content limit shall apply.

- 305 **EMISSIONS CONTROL EQUIPMENT:** As an alternative to the coating limits identified in Sections 301, 302, or 303, as applicable, a person may use air pollution control equipment, subject to the approval of the Air Pollution Control Officer, that provides an overall system efficiency of not less than 85% as determined pursuant to Section 408. Any approved emission control equipment must be maintained and used at all times in proper working condition.
- 306 **APPLICATION EQUIPMENT REQUIREMENT:**
- 306.1 A person shall not apply any coating unless one of the following application methods is used:
- a. Electrostatic application equipment.
 - b. High-Volume Low-Pressure spray equipment. At an automotive coating facility subject to the requirements of Section 302, the spray gun shall meet one of the following:
 1. The spray gun shall be permanently labeled as a HVLP; or
 2. If the spray gun is not permanently labeled as a HVLP, then the end user shall demonstrate that the spray gun meets the HVLP definition in Section 237 in design and use. A satisfactory demonstration shall be based on the manufacturer's published technical material on the design of the gun and by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun.
 - c. Low-Volume Low-Pressure spray equipment.
 - d. Brush or roll coating, dip coat, or flow coat.
 - e. Any other application method that achieves a transfer efficiency equivalent to, or higher than, the application methods listed in Sections 306.1(a)-(d) as determined by the methods specified in Section 504.9. Written approval from the Air Pollution Control Officer shall be obtained for each alternative application method prior to use.
- 307 **PROHIBITION OF SPECIFICATION:** No person shall solicit or require the use of, or specify the application of a coating, coating remover (stripper) or solvent on a motor vehicle or mobile equipment or associated parts and components if such use or application is prohibited by any of the provisions of this rule. This prohibition shall apply to all written or oral contracts, including but not limited to, job orders, under the terms of which any coating that is subject to the provisions of this rule is to be used or applied at any physical location within the District. This prohibition shall not apply to coatings that meet the criteria specified in Section 308.2.
- 308 **PROHIBITION OF SALE OR MANUFACTURE:**
- 308.1 No person shall manufacture, blend, repackage for sale, supply, sell, solicit, or offer for sale, or distribute within the District any product (e.g., coating, coating remover (stripper) or solvent) if such product does not comply with any of the provisions of this rule.
- 308.2 Notwithstanding the provisions of Section 308.1, a person may manufacture, blend, repackage for sale, supply, sell, solicit, or offer for sale or distribute any product (e.g., coating, coating remover (stripper) or solvent) with a VOC content in excess of the limits specified in Sections 301, 302, 303, 310, or 311 under the following circumstances, and provided all the requirements of Section 501 are also met:
- a. the product is for use exclusively within an emission control system as allowed in Section 305, or
 - b. the product is for use outside the District.
- 309 **PROHIBITION OF POSSESSION:** Any person shall not possess at any physical location within the District any containers containing coatings that are not in compliance with Section 301, 302, or 303, as applicable. Effective February 25, 2012, any person shall not possess at any physical location within the District any containers containing coating removers (strippers) or solvents that are not in compliance with Sections 310 or 311, as applicable. This section shall apply only to end users (e.g., automotive coating facilities).

- 310 **SOLVENT CLEANING OPERATIONS AND STORAGE REQUIREMENTS:** Any person subject to this rule shall comply with the following requirements:
- 310.1 Closed containers shall be used for the disposal of cloth, sponges, or paper used for solvent cleaning operations and coating removal.
- 310.2 Volatile organic compound-containing materials shall be stored in closed, vapor-tight containers, when not in use except while adding to or removing them from the containers.
- 310.3 At an automotive coating facility subject to the requirements of Section 301, a person shall perform cleaning operations of application equipment in an enclosed system as defined in Section 228 of this rule or use a solvent with a volatile organic compound content not in excess of 72 grams per liter (0.6 pounds per gallon), as determined by Sections 504.1 and 504.3. Section 310.3 will sunset on February 25, 2012.
- 310.4 At an automotive coating facility subject to the requirements of Section 302, a person shall not perform cleaning operations using a solvent with a volatile organic compound content in excess of 25 grams per liter (0.21 pounds per gallon), as determined pursuant to Section 411.
- 310.5. At an automotive coating facility subject to the requirements of Section 301, a person shall not perform surface preparation with a solvent containing volatile organic compounds in excess of 72 grams per liter (0.6 pounds per gallon), as determined by Sections 504.1 and 504.3. This limit shall not apply to surface preparation material applied from a hand-held spray bottle for the removal of road tar, engine oil, grease, overspray, or adhesives, from the vehicle, or used to clean plastic parts. The volatile organic compound content of surface preparation material used to remove road tar, engine oil, grease, overspray, or adhesives, from the vehicle or used to clean plastic parts shall not exceed 780 grams per liter (6.5 pounds per gallon), as determined by Sections 504.1 and 504.3. Section 310.5 will sunset on February 25, 2012.
- 310.6 At an automotive coating facility subject to the requirements of Section 301, spray gun nozzles only, may be soaked in solvent-based materials for cleaning, provided the container (not to exceed five (5) gallons in size) is kept tightly covered at all times except when accessing the container. Section 310.6 will sunset on February 25, 2012.
- 310.7 At an automotive coating facility subject to the requirements of Section 302, for bug and tar removal, a person shall not use any solvent other than bug and tar remover regulated under the Consumer Products Regulation (California Code of Regulations Section 94507 et seq.) or a solvent with a volatile organic compound content of no more than 25 grams per liter.
- 311 **COATING REMOVER (STRIPPER) REQUIREMENTS:** A person shall not perform coating removal with a material containing volatile organic compounds in excess of 200 grams per liter (1.7 pounds per gallon).
- 312 **SPECIALTY COATING LIMITATION:** For automotive coating facilities subject to the requirements of Section 301, the use of all specialty coatings except antiglare/safety coatings shall not exceed 5% of all coatings applied at each stationary source, on a monthly basis. The percentage of specialty coatings used shall be determined as follows:
- $$\% \text{ Specialty Coatings} = \frac{[\text{All Specialty Coatings Applied, Gal/Month}]}{[\text{All Coatings Applied, Gal/Month}]} \times 100\%$$
- This section will sunset on February 25, 2012.
- 313 **PRECOAT LIMITATION:** At an automotive coating facility subject to the requirements of Section 301, a person shall not use precoat in excess of 25%, by volume, of the amount of primer applied in conjunction with the precoat at each stationary source, on a monthly basis. The percentage of precoat used shall be determined as follows:

$$\% \text{ Precoat} = \frac{[\text{All Precoat Applied, Gal/Month}]}{[\text{All Precoat Applied} + \text{All Primer Surfacer Applied, Gal/Month}]} \times 100\%$$

This section will sunset on February 25, 2012.

400 ADMINISTRATIVE REQUIREMENTS

401 **PRODUCT INFORMATION SHEET REQUIREMENTS:** Prior to February 25, 2012, vendors of any coating subject to Section 301, coating remover (stripper) subject to Section 311, surface preparation material subject to Section 310.5, or solvent subject to 310.3 shall make available to the purchaser at the time of sale the following information:

401.1 **For coatings, as specified in Section 301:** the name/code/manufacturer and maximum volatile organic compound content of the material, as applied, after any mixing or thinning as recommended by the manufacturer. Volatile organic compound content shall be displayed as grams of volatile organic compound per liter of coating (or pounds of volatile organic compounds per gallon), excluding water and exempt compounds, pursuant to Section 409.

401.2 **For surface preparation materials, solvents, and coating removers (strippers), and temporary protective coatings as specified in Sections 310.5, 310.3, 311, and 301:** the name/code/manufacturer and maximum volatile organic compound content of the material, as applied, after any mixing or thinning as recommended by the manufacturer. Volatile organic compound content shall be displayed as grams of volatile organic compounds per liter of coating (or pounds of volatile organic compound per gallon), including water and exempt compounds, pursuant to Section 410 for temporary protective coatings and Section 411 for all other materials.

401.3 **For all materials as specified in Sections 401.1 and 401.2:** Recommendations regarding thinning, reducing, or mixing with any volatile organic compound-containing material, as defined in Section 273.

401.4 **For all materials as specified under Sections 401.1 and 401.2:** Volatile organic compound content may be calculated using product formulation data, or may be determined using the test method in Section 504.1.

This section will sunset on February 25, 2012.

402 **PRODUCT DATA SHEET REQUIREMENTS:** Effective February 25, 2012, the manufacturer and repackager of any coating and coating component subject to Section 302, coating remover (stripper) subject to Section 311, or solvent subject to Section 310 shall include the following information on product data sheets:

402.1 **For coatings and coating components subject to Section 302:**

- a. The volatile organic compound regulatory content for coatings expressed in grams per liter, calculated pursuant to Section 409.
- b. The volatile organic compound actual content for coatings expressed in grams per liter, calculated pursuant to Section 410.
- c. The weight percentage of volatiles, water and exempt compounds.
- d. The volume percentage of water and exempt compounds.
- e. The density of the material (in grams per liter).
- f. For coatings and coating components containing tertiary butyl acetate, the actual content of tertiary butyl acetate per total volume of coating or coating component, expressed in grams per liter.

402.2 **For each individual ready to spray mixture (based on the manufacturer's and repackager's stated mix ratio):**

- a. The volatile organic compound regulatory content for coatings expressed in grams per liter, calculated pursuant to Section 409.
- b. The volatile organic compound actual content for coatings expressed in grams per liter, calculated pursuant to Section 410.
- c. The weight percentage of volatiles, water and exempt compounds.
- d. The volume percentage of water and exempt compounds.
- e. The density of the material (in grams per liter).

- f. For each ready to spray mixture containing tertiary butyl acetate, the actual content of tertiary butyl acetate per total volume of the mixture, expressed in grams per liter.
- 402.3 **For coating removers and solvents subject to Section 311 and 310:** The volatile organic compound content as calculated pursuant to Section 411.
- 403 **LABELING REQUIREMENTS:**
- 403.1 Effective February 25, 2012, the manufacturer and repackager of automotive coatings or automotive coating components subject to Section 302 shall include on all containers the applicable use category(ies), and the VOC actual content for coatings and VOC regulatory content for coatings, as supplied, expressed in grams per liter.
- 403.2 Effective February 25, 2012, the manufacturer and repackager of coating removers (strippers) subject to Section 311 and solvents subject to Section 310 shall include on all containers the VOC content for solvents, as supplied, expressed in grams per liter.
- 404 **OPERATION AND MAINTENANCE PLAN:** Any person using emissions control equipment pursuant to Section 305 must submit an Operation and Maintenance Plan for the emissions control equipment to the Air Pollution Control Officer for approval. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. The Plan shall also specify which daily records must be kept to document these operations and maintenance procedures. These records shall comply with the requirements of Section 502. The Plan shall be implemented upon approval by the Air Pollution Control Officer.
- 405 **PROCEDURE FOR PROCESSING OPERATION AND MAINTENANCE PLAN:**
- 405.1 **APPROVAL OF PLAN:** The Air Pollution Control Officer shall determine whether the Operation and Maintenance Plan meets the requirements of Section 404 not later than 30 days after receipt of the Plan, or within a longer period of time agreed upon by the parties. The Air Pollution Control Officer shall approve an Operation and Maintenance Plan unless it fails to demonstrate continuous operations of the emissions control equipment during periods of emissions producing operations, according to the standards set forth in Section 305, and/or it fails to specify which daily records, in accordance with the requirements of Section 502, are to be kept to document the operation and maintenance procedures set forth in the Plan.
- 405.2 **REVISION OF PLAN:** If the Air Pollution Control Officer does not approve an Operation and Maintenance Plan, the source shall receive written notice of the deficiency, and shall have an additional 30 days from the date of the notification of the deficiency to correct and resubmit the Operation and Maintenance Plan. The decision of the Air Pollution Control Officer regarding the resubmitted Operation and Maintenance Plan shall be final. Failure to correct the deficiency in an Operation and Maintenance Plan upon resubmittal shall constitute a violation of this rule that is subject to the penalties set forth in Health and Safety Code section 42400 et seq.
- 406 **COMPLIANCE SCHEDULE:** Section 301 sunsets and is replaced with Section 302 beginning:
- 406.1 One day after August 25, 2011 for an automotive coating facility installed after August 25, 2011.
- 406.2 February 25, 2012 for an automotive coating facility installed before August 25, 2011.
- This section will sunset on February 25, 2012.
- 407 **DETERMINATION OF VOLATILE ORGANIC COMPOUND MASS EMISSION RATE AND PERCENT CONTROL EFFICIENCY:** The volatile organic compound mass emission rate shall be calculated both upstream and downstream of the emissions control device based on

the respective volatile organic compound mass concentration and volumetric flowrate, pursuant to Section 504.4 and the following equation:

$$M = (Q)(C)(60 \text{ min/hr})$$

Where: M = volatile organic compound mass emission rate, in lb/hr.
 Q = the volumetric flowrate of the exhaust stack, in scfm.
 C = the volatile organic compound mass concentration, in lb/scf, as determined pursuant to the test methods in Section 504.4.

The percent control efficiency is calculated as follows:

$$\%CE = \frac{M_U - M_D}{M_U} \times 100$$

Where: CE = control efficiency.
 M_U = the upstream volatile organic compound mass emission rate, in lb/hr.
 M_D = the downstream volatile organic compound mass emission rate, in lb/hr.

- 408 **DETERMINATION OF OVERALL SYSTEM EFFICIENCY:** The overall system efficiency shall be determined using the following equation:

$$E = CE \times K$$

Where: E = Overall system control efficiency
 CE = Control efficiency as determined pursuant to Section 407
 K = Collection efficiency as determined in Section 504.5.

- 409 **DETERMINATION OF VOLATILE ORGANIC COMPOUNDS REGULATORY CONTENT OF A COATING, LESS WATER AND EXEMPT COMPOUNDS (VOC REGULATORY):** The volume of coating material is defined as the volume of the original coating plus any material added to the original coating. The weight of volatile organic compounds per combined volume of volatile organic compounds and coating solids shall be calculated by the following equation:

$$G1 = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where: G1 = Regulatory content weight of volatile organic compounds per total volume of coating, less water and exempt compounds, in grams per liter
 W_v = Weight of volatile compounds including any volatile materials added to the original coating supplied by the manufacturer, in grams
 W_w = Weight of water, in grams
 W_{ec} = Weight of exempt compounds as defined in Section 230, in grams
 V_m = Volume of coating material, in liters
 V_w = Volume of water, in liters
 V_{ec} = Volume of exempt compounds as defined in Section 230, in liters

- 410 **DETERMINATION OF VOLATILE ORGANIC COMPOUNDS ACTUAL CONTENT OF A COATING (VOC ACTUAL):** The volume of coating material is defined as the volume of the original coating plus any material added to the original coating. The weight of volatile organic compounds per total volume of coating shall be calculated by the following equation:

$$G2 = \frac{W_v - W_w - W_{ec}}{V_m}$$

- Where: G2 = Actual content weight of volatile organic compounds per total volume of coating, in grams per liter
 Wv = Weight of volatile compounds including any volatile materials added to the original coating supplied by the manufacturer, in grams
 Ww = Weight of water, in grams
 Wec = Weight of exempt compounds as defined in Section 230, in grams
 Vm = Volume of coating material, in liters

- 411 **DETERMINATION OF VOLATILE ORGANIC COMPOUNDS ACTUAL CONTENT OF COATING REMOVERS (STRIPPERS) AND SOLVENTS:** The volume of material is defined as the volume of the original material, plus any volatile organic compound-containing material added to the original material. The weight of volatile organic compounds per total volume of material shall be calculated by the following equation:

$$G3 = \frac{W_v - W_w - W_{ec}}{V_m}$$

- Where: G3 = Weight of volatile organic compound per total volume of material, in grams per liter
 Wv = Weight of volatile compounds, in grams
 Ww = Weight of water, in grams
 Wec = Weight of exempt compounds as defined in Section 230, in grams
 Vm = Volume of material, in liters

500 MONITORING AND RECORDS

- 501 **RECORDKEEPING FOR PROHIBITION OF SALE OR MANUFACTURE:** Any person claiming a prohibition of sale exception shall keep a detailed log on site, and make it available to the Air Pollution Control Officer immediately upon request, of each automotive coating component and automotive coating manufactured, blended, repackaged for sale, supplied, sold, offered for sale, or distributed showing:
- 501.1 The quantity manufactured, blended, repackaged for sale, supplied, sold, offered for sale, or distributed including size and number of containers.
 - 501.2 The volatile organic compound regulatory content for coatings as defined in Section 409.
 - 501.3 The volatile organic compound actual content for coatings as defined in Section 410.
 - 501.4 To whom they were supplied, sold, offered for sale, or distributed, or for whom they were manufactured, blended, or repackaged for sale including the name, address, phone number, retail tax license number, and valid district permit number (if a permit is required).
 - 501.5 The specific exception being utilized under Section 308.2.
- 502 **RECORDKEEPING FOR END USERS:** In addition to any applicable recordkeeping requirements of either Rule 202, New Source Review, Rule 209, Limiting Potential to Emit, or any other District rule which may be applicable, any person subject to this rule shall maintain the following records on site and make such records available immediately upon request to the Air Pollution Control Officer:

- 502.1 **LIST OF COATINGS:** This section will sunset on February 25, 2012. For automotive coating facilities subject to the requirements of Section 301, a list shall be maintained of currently used coatings, coating removers (strippers), surface preparation materials, solvents and other volatile organic compound-containing materials including, but not limited to thinners, reducers, hardeners, retarders and catalysts. The list shall contain all such materials that are currently used and stored on-site and shall include the following information:
- The material type by name/code/manufacturer and the appropriate category as designated by the coating categories in Sections 301, 310, and 311, as applicable.
 - The volatile organic compound content of the material as applied. Volatile organic compound content, as applied, as reported by the vendor, pursuant to Section 401, is acceptable.
 - The actual mixing ratio used for the material, as applied.
 - Identification of each material type exceeding the volatile organic compound limits specified in Sections 301, 310, and 311.
- 502.2 **LIST OF MATERIALS:** For automotive coating facilities subject to the requirements of Section 302, a current list shall be maintained of all coatings and solvents used that are subject to this rule. This list shall include the following information for each coating and solvent:
- The material name and manufacturer.
 - The application method used.
 - The coating type as designated by the coating categories in Section 302 and mix ratio specific to the coating.
 - VOC actual content for coatings and VOC regulatory content for coatings, as applied, or VOC content for solvents.
 - Identification of the material as a coating or solvent.
- 502.3 **PRODUCT INFORMATION SHEET:** This section will sunset on February 25, 2012. For automotive coating facilities subject to the requirements of Section 301, a data sheet applicable to each material type shall be maintained on-site. The data sheet shall be made available by the vendor to the end user, pursuant to Section 401, and shall include the following information:
- For coatings, as specified in Section 301:** the name/code/manufacturer and maximum volatile organic compound content of the material, as applied, after any mixing or thinning as recommended by the manufacturer. Volatile organic compound content shall be displayed as grams of volatile organic compound per liter of coating (or pounds of volatile organic compound per gallon), excluding water and exempt compounds, pursuant to Section 409.
 - For surface preparation materials, solvents, and coating removers (strippers), as specified in Sections 310.5, 310.3, and 311, and temporary protective coatings as specified in Section 301:** The name/code/manufacturer and maximum volatile organic compound content of the material, as applied, after any mixing or thinning as recommended by the manufacturer. Volatile organic compound content shall be displayed as grams of volatile organic compound per liter of coating (or pounds of volatile organic compound per gallon), including water and exempt compounds, pursuant to Section 410 for temporary protective coatings and Section 411 for all other materials.
 - For all as specified in Sections 502.3(a) and 502.3(b):** Recommendations regarding thinning, reducing, or mixing with any volatile organic compound containing material, as defined in Section 273.
 - For all as specified in Sections 502.3(a) and 502.3(b):** Volatile organic compound content may be calculated using product formulation data, or may be determined using the test method in Section 504.1.
- 502.4 **PRODUCT DATA SHEET:** For automotive coating facilities subject to the requirements of Section 302, for each individual automotive coating or automotive coating component, coating remover (stripper), solvent, or ready to spray mixture, a

data sheet shall be maintained on site. The data sheet shall comply with the requirements of Section 402.

502.5 **RECORDS OF USAGE:** This section will sunset on February 25, 2012. For automotive coating facilities subject to the requirements of Section 301, any person using materials subject to this rule shall update and maintain the following records on site:

a. Monthly:

1. Records of total applied volume (including thinners, reducers, hardeners, retarders and catalysts) for each coating, coating remover (stripper), surface preparation material and solvent, specified by category as listed in Sections 301, 310, and 311.
2. The method of application, specified by category as listed in Sections 301, 310, and 311, including a designation for touch-up operations, as applicable.
3. Records of total applied volume (including thinners, reducers, hardeners, retarders and catalysts of precoat and primer used in conjunction with precoat to demonstrate compliance with Section 313.
4. Records of total applied volume (including thinners, reducers, hardeners, retarders and catalysts) of each category of specialty coating used to demonstrate compliance with Section 312.
5. Notwithstanding the requirements of Sections 502.5.a.1, 502.5.a.3, and 502.5.a.4, if total applied volume records are not maintained then all of the following records shall be maintained.
 - i) Beginning inventory. This shall include the number of coating containers, the capacity of each container (e.g., quarts), and the category of coating as specified in Section 301, 310, or 311 of the coating stored in each container (e.g., primer, primer, sealer). A partially filled container shall be counted as a full container;
 - ii) Purchase invoices;
 - iii) Amount of manifested waste. If there is a monthly record of the manifested waste, then a percentage of the total manifested waste shall be allocated to each coating category based on the usage rate for that coating category during the reporting period. If there is not a monthly record of the manifested waste, then the amount of manifested waste shall be zero; and
 - iv) Ending inventory. This shall be the number of remaining coating containers, the capacity of each container (e.g., quarts), and the category of coating as specified in Sections 301, 310, or 311 of the coating stored in each container (e.g., primer, primer sealer). A partially filled container shall be counted as a full container

b. Daily:

1. If utility bodies are coated, record of the number of utility bodies coated,
2. If, pursuant to Section 305, an emission control device is used as a means of complying with this rule, records of the material type by name/code/manufacturer and the total applied volume of each material.
3. For non-compliant coatings, coating removers (strippers), surface preparation materials and solvents, records regarding the use, including the lack of use, of each material type by name/code/manufacturer and the total applied volume of each material.

- 502.6 **PURCHASE AND USAGE RECORDS:** For automotive coating facilities subject to the requirements of Section 302, the following purchase and usage records shall be maintained on-site:
- a. Monthly purchase records identifying the coating type (as listed in Section 302), name/code/manufacturer, and purchased volume of each material.
 - b. If, pursuant to Section 305, an emission control device is used as a means of compliance with this rule, daily records identifying the coating type (as listed in Section 302), name/code/manufacturer, and the total applied volume of each material.
 - c. For coatings containing tertiary butyl acetate, monthly records regarding use, including name/code/manufacturer of the coating and content of tertiary butyl acetate contained in each coating.
- 503 **DURATION OF RECORDS:** All records required by this rule shall be maintained on site for a continuous three-year period.
- 504 **TEST METHODS**
- 504.1 **DETERMINATION OF VOLATILE ORGANIC COMPOUND CONTENT:** Volatile organic compound content of coatings, coating removers (strippers), and solvents shall be determined using EPA Reference Method 24 and Sections 409, 410, 411, and 504.3 of this rule.
- 504.2 **DETERMINATION OF ACID CONTENT:** The weight percent acid in a pretreatment coating shall be determined in accordance with ASTM D1613-06, "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products" (April 2006).
- 504.3 **DETERMINATION OF COMPOUNDS EXEMPT FROM VOLATILE ORGANIC COMPOUND DEFINITION:** Compounds exempted from the volatile organic compound definition, other than those determined pursuant to Section 504.7 shall be determined in accordance with ASTM D4457-02, "Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph" (February 2008), or ARB method 432, "Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings" (September 1989). If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.
- 504.4 **DETERMINATION OF CONTROL EFFICIENCY:** Control efficiency of the emissions control equipment shall be determined in accordance with EPA Method 25, 25A, 25B, EPA Method 2 or 2C (whichever is applicable), and Section 407.
- 504.5 **DETERMINATION OF COLLECTION EFFICIENCY:** Efficiency of the collection system shall be determined in accordance with the following:
- a. Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or
 - b. Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 504.6 **DETERMINATION OF METALLIC CONTENT:** Measurement of metallic content shall be conducted and reported in accordance with South Coast Air Quality Management District Method 318-95, "Determination of Weight Percent Elemental Metals in Coatings by X-ray Diffraction".
- 504.7 **DETERMINATION OF METHYL ACETATE, ACETONE, t-BUTYL ACETATE, AND PCBTF CONTENT:** The quantity of methyl acetate, acetone, t-butyl acetate, and parachlorobenzotrifluoride shall be determined by using ASTM Method D6133-02: "Standard Test Method for Acetone, p-Chlorobenzotrifluoride, Methyl Acetate or t-Butyl Acetate Content of Solvent-borne and Waterborne Paints, Coatings, Resins, and Raw Materials by Direct Injection Into a Gas Chromatograph" (February 2003).

- 504.8 **DETERMINATION OF SOLIDS CONTENT IN COATINGS:** The solids content shall be determined in accordance with ASTM Standard D2832-92, "Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings" (January 2005).
- 504.9 **DETERMINATION OF TRANSFER EFFICIENCY:** The transfer efficiency of alternative coating application methods (as specified in Section 306.1(e)) shall be determined using South Coast Air Quality Management District "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," (May 24, 1989) and South Coast Air Quality Management District "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns," (September 26, 2002).
- 504.10 **ALTERNATIVE TEST METHODS:** The use of other test methods which are determined to be equivalent or better and approved, in writing, by the Air Pollution Control Officer, ARB, and the U.S. EPA may be used in place of the test methods specified in this rule.
- 504.11 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

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RULE 463 WOOD PRODUCTS COATINGS
(Adopted 09-05-96)
(Amended 12-5-96, 7-23-98, 9-25-08)

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100 GENERAL

- 101 **PURPOSE:** To establish limits on the emission of volatile organic compounds (VOC) from coatings and strippers used on wood products, and from products used in surface preparation and cleanup.
- 102 **APPLICABILITY:** This rule applies to any person who uses, manufactures, blends, sells, repackages, distributes, or specifies the use of wood products coatings, and/or strippers for use within the District. The requirements of Rule 441 - ORGANIC SOLVENTS shall not apply to operation subject to this rule.
- 103 **SEVERABILITY:** If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.
- 110 **EXEMPTIONS:**
- 110.1 Sources using less than 55 gallons per year, (singly or in any combination) of wood products coatings and/or strippers, are exempt from all provisions of this rule with the exception of Section 501 - USAGE RECORDS.
- 110.2 Wood products coatings that are sold in non-refillable aerosol-spray containers.
- 110.3 Coating operations for the purpose of manufacturing a finished wood panel intended for attachment to the inside walls of buildings, including, but not limited to, homes and office buildings, mobile homes, trailers, prefabricated buildings and similar structures; or a finished exterior wood siding intended for use in construction.
- 110.4 Coating of architectural components or structures not coated in a shop environment, which are regulated by Rule 442 - Architectural Coatings.

200 DEFINITIONS

- 201 **AEROSOL-SPRAY CONTAINER:** Any hand-held, pressurized, non-refillable container of 1 liter (1.1 quarts) or less, where the contents are released when a valve on the container is depressed.
- 202 **AFFECTED POLLUTANT:** Volatile organic compounds (VOC), as defined in Section 239.
- 203 **BINDERS:** Non-volatile polymeric organic materials (resins) which form the surface film in coating applications.
- 204 **CAPTURE EFFICIENCY:** Expressed in percent, capture efficiency is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from wood product coating operations, both measured simultaneously, and can be calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device

W_e = Weight of VOC emitted

- 205 **CLEANUP MATERIAL:** A VOC-containing material used to clean application equipment used in wood products coating operations.
- 206 **CLEAR TOPCOAT:** A final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.
- 207 **CLOSED CONTAINER:** A container which has a cover where the cover meets with the main

body of the container without any gaps between the cover and the main body of the container.

208 **COATING:** A material which is applied to a surface and which forms a film in order to beautify and/or protect such surface. "Coating" includes, but is not limited to, materials such as topcoats, stains, sealers, fillers, conversion varnish, pigmented coating, multicolored coating, moldseal coating, washcoat, and toner.

209 **CONTROL EFFICIENCY:** Expressed in percent, control efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously. Control efficiency is calculated by the following equation:

$$\text{Control Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device

W_a = Weight of VOC discharged from the control device

210 **CONVERSION VARNISH:** A coating comprised of a homogeneous (alkyd-amino resin) liquid which, when acid catalyzed and applied, hardens upon exposure to air or heat, by evaporation and polymerization, to form a continuous film that imparts protective or decorative properties to wood surfaces. When used as a combined sealer/topcoat system, conversion varnish shall not be subject to the VOC limit for sealers, as specified in section 302.

211 **DIP COAT:** A coating which is applied by dipping an object into a vat of coating material and allowing any excess coating material to drain off.

212 **ELECTROSTATIC APPLICATION:** The electrical charging of atomized coating droplets for deposition by electrostatic attraction.

213 **EMISSIONS UNIT:** An identifiable operation or piece of process equipment such as an article, machine, or other contrivance which controls, emits, may emit, or results in the emissions of any affected pollutant directly or as fugitive emissions.

214 **ENCLOSED GUN CLEANER:**

214.1 A device that is used for the cleaning of spray guns, pots and hoses, that has an enclosed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or

214.2 A device that is used for the cleaning of spray guns, pots and hoses, that has an enclosed solvent container, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the enclosed container.

215 **EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101-GENERAL PROVISIONS AND DEFINITIONS

216 **FILLER:** A preparation used to fill in cracks, grains, etc., of wood before applying a coating.

217 **FLOW COAT:** A coating which is applied by flowing a stream of coating over an object and allowing any excess coating material to drain off.

218 **HIGH-SOLIDS STAIN:** Stains containing more than 454 grams (1 pound) of solids per 3.785 liters (1 gallon), by weight, and can include wiping stains, glazes, and opaque stains.

219 **HIGH-VOLUME, LOW-PRESSURE (HVLP):** Equipment used to apply coatings by means of

a gun which is designed to be operated and which is operated between 0.1 and 10 psig air pressure measured dynamically at the center of the air cap and at the air horns.

- 220 **HISTORICAL REPRODUCTION COATING:** A coating applied to an antique wood product produced in the nineteenth century or earlier, for the purpose of restoring the product to a historically accurate finish.
- 221 **INK:** A fluid that contains dyes and/or colorants and is used to make markings, but not to protect surfaces.
- 222 **LOW-SOLIDS STAINS:** Stains containing 454 grams (1 pound) or less of solids per 3.785 liters (1 gallon) or less, by weight.
- 223 **LOW-VOLUME, LOW-PRESSURE (LVLP) EQUIPMENT:** Spray coating application equipment with air pressure between 0.1 and 10.0 pounds per square inch gauge (psig) and air volume less than 15.5 cfm per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 224 **MAJOR STATIONARY SOURCE OF VOC:** For the purpose of this rule, a major stationary source of VOC is a stationary source with a potential to emit exceeding 25 tons per year of volatile organic compounds or with a potential to emit exceeding the major stationary source thresholds that are listed in Title I of the Federal Clean Act for volatile organic compounds which correspond to the nonattainment designation of the District. The fugitive emissions of a source shall not be considered in determining whether it is a major stationary source, unless the source belongs to a category regulated by a standard promulgated under Section 111 or 112 (42 U.S.C. Section 7411 of 7412) of the Federal Clean Air Act, but only with respect to those air pollutants that have been regulated for that category.
- 225 **MOLD-SEAL COATING:** The initial coating applied to a new mold or repaired mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.
- 226 **MULTI-COLORED COATING:** A coating which exhibits more than one color when applied, and which is packaged in a single container and applied in a single coat.
- 227 **NEW WOOD PRODUCT:** A wood product which has not been previously coated. A wood product from which uncured coatings have been removed to repair flaws in initial coatings applications is a new wood product.
- 228 **PIGMENTED COATINGS:** Opaque coatings which contain binders and colored pigments which are formulated to hide the wood surface, either as an undercoat or topcoat.
- 229 **REACTIVE DILUENT:** A liquid component of a coating which is a VOC during application, and one in which, through chemical or physical reactions, such as polymerization, becomes an integral part of a finished coating.
- 230 **REFINISHING OPERATION:** The steps necessary to remove cured coatings and to repair, preserve, or restore a wood product.
- 231 **REPAIR COATING:** A coating used to recoat portions of a product which has sustained mechanical damage to the coating following normal coating operations.
- 232 **ROLL COATER:** A series of mechanical rollers that forms a thin coating film on the surface of the roller, which is applied to a substrate by moving the substrate underneath the roller.
- 233 **SEALER:** A coating, containing binders, which seals the wood prior to application of subsequent coatings.

- 234 **STENCIL COATING:** An ink or a pigmented coating which is rolled or brushed onto a template or stamp in order to add identifying letters and/or numbers to wood products.
- 235 **STRIPPER:** A liquid used to remove cured coatings, cured inks, and/or cured adhesives.
- 236 **SURFACE PREPARATION MATERIAL:** A VOC-containing material applied to the surface of any wood product, prior to the application of coatings, to clean the wood product or to promote the adhesion of subsequent coatings.
- 237 **TONER:** A wash coat which contains binders and dyes or pigments to add tint to a coated surface.
- 238 **TOUCH-UP COATING:** A coating used to cover minor coating imperfections appearing after the main coating operation.
- 239 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101- GENERAL PROVISIONS AND DEFINITIONS.
- 240 **VOLATILE ORGANIC COMPOUND COMPOSITE PARTIAL VAPOR PRESSURE:** The sum of the partial pressures of compounds defined as VOCs.
- 241 **WASH COAT:** A coating that is used to seal wood surfaces, preventing undesired staining, and control penetration. For the purpose of this rule, washcoats shall be considered low-solids coatings and shall contain less than 454 grams (1 pound) of solids per 3.785 liters (1 gallon), by weight. Wash coats with greater than 454 grams (1 pound) of solids per 3.785 liters (1 gallon), by weight, shall be considered sealers.
- 242 **WOOD PANEL:** Any piece of wood or wood composition, which is solid or laminated, and which is larger than 10 square feet in size, and which is not subsequently cut into smaller pieces.
- 243 **WOOD PRODUCTS:** Surface-coated products which include cabinets (kitchen, bath, and vanity), tables, chairs, beds, sofas, shutters, art objects, and any other coated objects made of solid wood, and/or wood composition.
- 244 **WOOD PRODUCT COATING APPLICATION OPERATIONS:** A combination of coating application steps which may include use of spray guns, flash-off areas, spray booths, ovens, conveyors, and/or other equipment operated for the purpose of applying coating materials.

300 **STANDARDS**

- 301 **APPLICATION EQUIPMENT REQUIREMENTS:** A person subject to the provisions of this rule shall not apply any wood product coating to any wood products, unless one of the following application methods is used:
- 301.1 Electrostatic application equipment
 - 301.2 High Volume Low Pressure spray equipment
 - 301.3 Dip coat
 - 301.4 Flowcoat
 - 301.5 Hand application methods, such as brush or roller
 - 301.6 Roll coater
 - 301.7 Low Volume Low Pressure spray equipment
 - 301.8 Air assisted airless, for touch-up and repair only
 - 301.9 Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency

302 **VOC CONTENT OF COATINGS FOR NEW WOOD PRODUCTS:** Except as provided in Sections 110, 305, and 306 no person shall apply any coating, to a new wood product, which has a volatile organic compound (VOC) content as applied exceeding the applicable limits specified below. The VOC content of coatings, except low-solid stains, toners, and washcoats, shall be determined in accordance with Sections 403 and 503.1. The VOC content of low-solid stains, toners and washcoats shall be determined in accordance with Sections 404 and 503.1.

302.1 If emission averaging is not used to achieve compliance with this section, VOC limits expressed in grams per liter shall be used.

302.2 If emission averaging is used to achieve compliance with this section, VOC limits expressed in pounds of VOC per pound of solids shall be used, except for low-solids stains, toners, and washcoats, for which VOC limits expressed in grams per liter shall be used.

COATING	VOC LIMITS
	Grams Per Liter of Coating (lbs-VOC/lbs-solids) Less water and Less Exempt Compounds
Clear Topcoats	275 (0.35)
Conversion Varnish (when used as a combined sealer/topcoat system)	550 (1.20)
Filler	275 (0.18)
High-Solid Stain	350 (0.42)
Inks	500 (0.96)
Mold-Seal Coating	750 (4.20)
Multi-Colored Coating	275 (0.33)
Pigmented Coating	275 (0.25)
Sealer	275 (0.36)

COATING	VOC LIMITS
	Grams Per Liter (lbs/gal) of Material
Low-Solid Stains, Toners, Washcoats	120 (1.00)

303 **VOC CONTENT OF COATINGS FOR REFINISHING, REPAIRING, PRESERVING, OR RESTORING WOOD PRODUCTS:** Except as provided in Sections 110, 305, and 306 no person shall apply any coating, to refinish, repair, preserve, or restore a wood product, which has a volatile organic compound (VOC) content exceeding the applicable limits specified below. The VOC content of coatings, except low-solid stains, toners, and washcoats, shall be determined in accordance with Sections 403 and 503.1. The VOC content of low-solid stains, toners and washcoats shall be determined in accordance with Sections 404 and 503.1.

303.1 If emission averaging is not used to achieve compliance with this section, VOC limits expressed in grams per liter shall be used.

303.2 If emission averaging is used to achieve compliance with this section, VOC limits expressed in pounds of VOC per pound of solids shall be used, except for low-solids stains, toners, and washcoats, for which VOC limits expressed in grams per liter shall be used.

COATING	VOC LIMITS
	Grams Per Liter of Coating (lbs-VOC/lbs-solids) Less water and Less Exempt Compounds
Clear Topcoats	680 (2.5)
Conversion Varnish	550 (1.20)
Filler	500 (0.96)
High-Solid Stain	700 (2.57)
Inks	500 (0.96)
Mold-Seal Coating	750 (4.20)
Multi-Colored Coating	680 (2.60)
Pigmented Coating	600 (1.60)
Sealer	680 (2.5)

COATING	VOC LIMITS
	Grams Per Liter (lbs/gal) of Material
Low-Solid Stains, Toners, Washcoats	480 (4.00)

304 **VOC CONTENT FOR STRIPPERS:** A person shall not use a stripper on wood products unless:

304.1 it contains less than 350 grams of VOC per liter of material; or

304.2 the VOC composite partial vapor pressure is 2 mm Hg (0.04 psia) or less at 20°C (68°F), as calculated pursuant to Section 402.

305 **EMISSION CONTROL EQUIPMENT:**

305.1 As an alternative, a person may comply with the VOC limits specified in Sections 302, 303, and 304, by using an approved air pollution control system consisting of capture and control devices, which reduces VOC emissions from the application of wood products coatings or strippers by an equivalent or greater amount than the limits specified in Sections 302, 303, and 304, with the written approval of the Air Pollution Control Officer. The minimum required overall capture and control efficiency of an emission system at which an equivalent or greater level of VOC reduction will be achieved, shall be calculated by the following equation:

$$C.E. = 1 - \frac{VOC_{LWc}}{VOC_{LWnMax}} \times \frac{\left(1 - \frac{VOC_{WnMax}}{D_{nMax}}\right)}{\left(1 - \frac{VOC_{LWc}}{D_c}\right)} \times 100$$

Where: C.E. = Overall Control Efficiency, percent.
 VOC_{LWc} = VOC Limit of Rule 463, less water and less exempt compounds, pursuant to Sections 302, 303, and/or 304.
 $VOC_{LWn,Max}$ = Maximum VOC content of non-compliant coating used in conjunction with a control device, less water and less exempt compounds.
 $D_{n,Max}$ = Density of solvent, reducer, or thinner contained in the non-compliant coating, containing the maximum VOC content of the multicomponent coating.

D_c = Density of corresponding solvent, reducer, or thinner used in the compliant coating system = 880 g/L.

- 305.2 The capture system shall vent all drying oven exhaust to the control device and shall have one or more inlets for collection of fugitive emissions; and
- 305.3 During any period of operation of a thermal incinerator, combustion temperature shall be continuously monitored; and
- 305.4 During any period of operation of a catalytic incinerator, exhaust gas temperature shall be continuously monitored; and
- 305.5 Written approval for the use of such equipment is obtained from the Air Pollution Control Officer prior to installation or use of the equipment.

306 **EMISSIONS AVERAGING PROVISIONS:**

306.1 For historical reproduction coatings only, and not at a major stationary source of VOC, a person may comply with the provisions of Section 303 by using an averaging approach for a maximum of 20 gallons per year of historical reproduction coatings used at the facility, provided that all requirements of this Section are met.

- a. A person using the provisions of this Section for compliance shall demonstrate that emissions from the coatings being averaged, on pounds of VOC per pounds of solids basis, on a rolling 30-day basis, are less than or equal to the allowable emissions, based on the following:

$$\sum_{i=1}^n VOC_i(U_i) \geq \sum_{i=1}^n ER_i(U_i)$$

Where: VOC_i = VOC content limit of coating "I" (grams of VOC per liter of material for low solids coatings and pounds of VOC per pound of solids for all other coatings, as required in Section 303).

U_i = Usage of coating "I" (liters of material for low-solids coatings, and pounds of solids for all other coatings), and

ER_i = Actual VOC content of coating "I", as applied (grams per liter for low-solids materials and pounds of VOC per pounds of solids for all other coatings).

- b. Any wood product coating not included in the emissions averaging shall comply with the VOC limits in Sections 302, 303, or 304.
- 306.2 If a stationary source does not satisfy the demonstration requirement in Section 306.1(a) at any time during a rolling 30-day period, the stationary source has exceeded Section 306.1(a) on every day of the rolling 30-day period.

307 **EMISSIONS AVERAGING PLAN:**

307.1 A person wanting to use emissions averaging to achieve compliance with this rule shall submit an Emissions Averaging Plan ("Plan") for approval by the Air Pollution Control Officer. The Plan may not be implemented until it is approved, in writing, by the Air Pollution Control Officer. Submittal of a Plan does not provide an exemption from the requirements of this rule. The Plan must be resubmitted, for approval by the Air Pollution Control Officer on an annual basis. If the Plan is not approved, emissions averaging will not be permitted.

307.2 The Plan shall include, at a minimum:

- a. A description of the wood product coatings to be included in the averaging program, and
- b. A description of the quantification and record keeping for coating usage, coating VOC and solids content, VOC emissions, and calculations to show compliance with Section 306.

308 **REQUIREMENTS FOR SURFACE PREPARATION AND CLEANUP MATERIALS:** Any person subject to this rule shall comply with the following requirements:

- 308.1 Until September 25, 2009, spray gun nozzles only, may be soaked in solvent-based materials for cleaning, provided the container (not to exceed five (5) gallons in size) is kept tightly covered at all times except when accessing the container.
- 308.2 Closed containers shall be used for the disposal of cloth or paper used for surface preparation, cleanup, and coating removal.
- 308.3 VOC-containing materials shall be stored in containers, which are closed when not in use, and shall be disposed of in a manner that the VOC are not emitted into the atmosphere.
- 308.4 Until September 25, 2009, a person shall not use solvent-based VOC-containing materials for the cleanup of spray equipment used in wood products coating application operations, unless the spray equipment is disassembled and cleaned in an enclosed gun cleaner.
- 308.5 Prior to September 25, 2009, a person shall not perform surface preparation or cleanup with a material containing VOC in excess of 200 grams per liter (1.67 pounds per gallon).
- 308.6 Effective September 25, 2009, a person shall not perform surface preparation or cleanup with a material containing VOC in excess of 25 grams per liter (0.21 pounds per gallon).

400 ADMINISTRATIVE REQUIREMENTS

- 401 **LABELING REQUIREMENTS: VOC CONTENT:** Each container of any coating, surface preparation material, or cleanup material, or stripper shall display its maximum VOC content of the coating, as applied, and after any thinning as recommended by the manufacturer, or shall have this information provided in a product data sheet supplied with the container. VOC content shall be displayed as grams of VOC per liter of coating (less water and less exempt solvent, and excluding any colorant added to tint bases), surface preparation and cleanup material, or stripper. VOC content displayed may be calculated using product formulation data, or may be determined using the test method in Section 503.1. Alternatively, containers for strippers subject to the provisions of Section 304 may display only the partial vapor pressure.
- 402 **CALCULATION FOR DETERMINING VOLATILE ORGANIC COMPOUND COMPOSITE PARTIAL VAPOR PRESSURE.** VOC composite partial vapor pressure for Determination of compliance with Section 304 shall be calculated by the following equation:

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i)/MW_i}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

- Where: Pp_c = VOC composite partial pressure at 20°C, in mm Hg.
 W_i = Weight of the "i"th VOC compound, in grams.
 W_w = Weight of water, in grams.
 W_e = Weight of exempt compounds, in grams.
 Mw_i = Molecular weight of the "i"th VOC compound, in (g/g-mole).
 Mw_w = Molecular weight of water, in (g/g-mole).
 Mw_e = Molecular weight of exempt compound, in (g/g-mole).
 Vp_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg.

- 403 **CALCULATION FOR DETERMINING WEIGHT OF VOC PER VOLUME OF COATING, LESS WATER AND LESS EXEMPT COMPOUNDS:** The weight of VOC per combined volume of VOC and coating solids shall be calculated by the following equation:

$$G_1 = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where: G1	=	Weight of VOC per volume of coating, less water and less exempt compounds.
W_v	=	Weight of volatile compounds, in grams.
W_w	=	Weight of water, in grams.
W_{ec}	=	Weight of exempt compounds, in grams.
V_m	=	Volume of coating material, in liters.
V_w	=	Volume of water, in liters.
V_{ec}	=	Volume of exempt compounds, in liters.

- 404 **CALCULATION FOR DETERMINATION OF VOC CONTENT PER VOLUME OF MATERIAL:** The volume of material is defined as the volume of the original material, plus any VOC-containing material added to the original material. The original material is the material before any VOC-containing material such as solvent is added for purposes of mixing or thinning. The VOC content shall exclude any colorant added to a tintbase. The weight of VOC per total volume of material shall be calculated by the following equation:

$$\frac{(W_v - W_w - W_{ec})}{V_m}$$

Where: W_v	=	Weight of all volatile compounds.
W_w	=	Weight of water.
W_{ec}	=	Weight of compounds listed as exempt in Section 215 from the definition of VOC.
V_m	=	Volume of material.

- 405 **CALCULATION FOR DETERMINATION OF POUNDS OF VOC PER POUND OF SOLIDS:**
 405.1 Pounds of VOC per pound of solids is the weight of VOC per weight of coating solids within any given volume of coating, and can be calculated by the test method found in Section 503.2 and the following equation:

$$\text{Pounds of VOC per Pound of Solids} = \frac{W_s - W_w - W_{es}}{W_r}$$

Where: W_s	=	Weight of Volatile compounds in pounds
W_w	=	Weight of water in pounds
W_{es}	=	Weight of exempt compounds in pounds
W_r	=	Weight of coating solids in pounds

- 405.2 For coatings that contain reactive diluents, the VOC content of the coating is determined after curing. The pounds of VOC per pound of coating solids shall be calculated by the test method found in Section 503.7 and the following equation:

$$\text{Pounds of VOC per Pound of Solids} = \frac{W_s - W_w - W_{es}}{W_r}$$

Where: W_s	=	Weight of Volatile compounds in pounds, emitted into the atmosphere during curing
W_w	=	Weight of water in pounds, emitted into the atmosphere during curing
W_{es}	=	Weight of exempt compounds in pounds, emitted into the atmosphere during curing
W_r	=	Weight of coating solids in pounds, prior to reaction

- 406 **OPERATION AND MAINTENANCE PLAN (“O&M Plan”):** Any person using an approved emission control device pursuant to Section 305 as a means of complying with this rule must submit, with the application for Authority to Construct, pursuant to Rule 201 - GENERAL PERMIT REQUIREMENTS, an O&M Plan for the emission control device to the Air Pollution Control Officer for approval. O&M Plans for emission control devices installed as of prior to the adoption of this rule, if not previously submitted, must be submitted by 7-1-97 and receive approval of the Air Pollution Control Officer. Each O&M Plan shall specify operation and maintenance procedures which will demonstrate continuous operation of the emission control device during periods of emissions-producing operations. Each O&M Plan shall also specify which records must be kept to document these operations and maintenance procedures. These records shall comply with the requirements of Section 501. An O&M Plan shall be implemented upon approval of the Air Pollution Control Officer.

500 MONITORING AND RECORDS:

- 501 **USAGE RECORDS:** In addition to any applicable record keeping requirements of either Rule 202 - NEW SOURCE REVIEW, Rule 207 - TITLE V - FEDERAL OPERATING PERMIT PROGRAM, and Rule 209 - LIMITING POTENTIAL TO EMIT, or any other District rule which may be applicable, persons subject to this rule shall maintain the following records in order to evaluate compliance:
- 501.1 a. A data sheet, material list, or invoice giving material name, manufacturer identification, material application, and VOC content; and
- b. Any catalysts, reducers, or other components used, and the mix ratio; and
- c. The applicable VOC limit from Section 302 or 303, and the actual VOC content of the wood product coating as applied.
- 501.2 a. For persons using coatings or materials which comply with the VOC limits specified in Sections 302, 303, and 304, records shall be maintained on a monthly basis, showing the type and volume of coatings, strippers and surface preparation and cleanup materials used. Coating type shall be designated according to the coating categories as listed in Sections 302, 303, and 304.
- b. For coatings used in emissions averaging pursuant to Section 306, daily records shall be maintained, showing the type and volume of coatings, strippers and surface preparation and cleanup materials used.
- c. If at any time a person uses coatings or materials exceeding the VOC limits specified in Sections 302, 303, and 304, records shall be maintained on a daily basis showing the type and volume of materials used.
- d. For persons using a collection and control system pursuant to Section 305, records shall be maintained on a daily basis, showing the type and volume of coatings and solvents used.
- 501.3 Any person using an emission control system pursuant to the provisions of Section 305, as a means of compliance with this rule, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control device during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 305.
- 502 **DURATION OF RECORDS:**
- 502.1 Prior to September 25, 2010, all records required by this rule shall be maintained for at least three years, and shall be made available to the Air Pollution Control Officer upon request.
- 502.2 Effective September 25, 2010, all records required by this rule shall be maintained for at least five years, and shall be made available to the Air Pollution Control Officer upon request.

503 **TEST METHODS**

- 503.1 **DETERMINATION OF VOC CONTENT:** VOC content of wood product coatings, strippers, and surface preparation and cleanup materials, subject to this rule, shall be determined in accordance with EPA Method 24 and Section 403 or 404 of this rule, as applicable.
- 503.2 **DETERMINATION OF COMPOSITION OF VOC:** The composition of VOC shall be as specified on the manufacturer's label or data sheet, or as determined by ASTM Method E260-96(2006), Standard Practice for Packed Column Gas Chromatography.
- 503.3 **DETERMINATION OF COMPOUNDS EXEMPT FROM VOC DEFINITION:** Compounds exempted from VOC definition, as listed in Section 215 of this rule, shall be determined in accordance with ASTM D-4457-02 (2008), or ARB Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.
- 503.4 **DETERMINATION OF CAPTURE EFFICIENCY:** Collection efficiency shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:
- Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
 - The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency"; or
 - Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 503.5 **DETERMINATION OF CONTROL EFFICIENCY:** Efficiency of control equipment shall be determined in accordance with EPA Method 18, 25, 25A, EPA Method 2 or 2C (whichever is applicable).
- 503.6 **VAPOR PRESSURE:** Vapor pressures may be obtained from standard reference texts or may be determined by ASTM D 2879-97 (2007).
- 503.7 **VOLATILE CONTENT OF RADIATION CURABLE MATERIALS:** Volatile content of radiation curable materials shall be obtained in accordance with ASTM Method D 5403-93 (2007).
- 503.8 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

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RULE 464 ORGANIC CHEMICAL MANUFACTURING OPERATIONS**Adopted 7-23-98
(Amended 9-25-08)****INDEX****100 GENERAL**

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100 GENERAL

- 101 **PURPOSE:** To limit emissions of volatile organic compounds (VOC) from organic chemical plants.
- 102 **APPLICABILITY:** The provisions of this rule shall apply to:
- 102.1 Equipment located in organic chemical plants which emit VOC, including, but not limited to reactors, distillation columns, crystallizers, evaporators, process tanks, wastewater tanks, centrifuges, filters, separators and air dryers.
- 102.2 The transfer and storage of VOC at organic chemical plants.
- 103 **SEVERABILITY:** If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.
- 110 **EXEMPTION, STATIONARY SOURCE WITH \leq 15 POUNDS/DAY UNCONTROLLED VOC EMISSIONS FROM ORGANIC CHEMICAL PLANTS:** The provisions of this rule shall not apply to organic chemical plants which, cumulatively at a stationary source, emit 15 pounds per day or less of maximum uncontrolled VOC emissions, as defined in Section 213, from organic chemical plants, provided the petition requirements in Section 401 and the reporting and recordkeeping requirements in Sections 501.4 and 501.10 are satisfied. For purposes of this exemption, all process emissions, including those from equipment cleanup, shall be summed to determine maximum emission rate.
- 111 **EXEMPTION, VENT STREAM WITH \leq 15 POUNDS/DAY UNCONTROLLED VOC EMISSIONS:** Any reactor, distillation column, evaporator, crystallizer or centrifuge with a total maximum uncontrolled VOC emissions, as defined in Section 213, of 15 pounds per day or less is exempt from Section 301, provided the petition requirements in Section 401 and the reporting and recordkeeping requirements in Sections 501.5 and 501.10 are satisfied.
- 112 **EXEMPTION, NON-PHARMACEUTICAL OR NON-COSMETIC SEPARATION OPERATION WITH \leq 15 POUNDS/DAY UNCONTROLLED VOC EMISSIONS:** Any separation device at any organic chemical plant, except pharmaceutical manufacturing plant or cosmetic manufacturing plant, with a total maximum uncontrolled VOC emissions, as defined in Section 213, of 15 pounds per day or less is exempt from Section 302.2, provided the petition requirements in Section 401 and the reporting and recordkeeping requirements in Sections 501.5 and 501.10 are satisfied.
- 113 **EXEMPTION, PROCESS TANK WITH \leq 15 POUNDS/DAY UNCONTROLLED VOC EMISSIONS:** Any process tank with a total maximum uncontrolled VOC emissions, as defined in Section 213, of 15 pounds per day or less is exempt from Section 304.2, provided the petition requirements in Section 401 and the reporting and recordkeeping requirements in Sections 501.5 and 501.10 are satisfied.
- 114 **EXEMPTION, STATIONARY SOURCE WITH \leq 15 POUNDS/DAY UNCONTROLLED VOC EMISSIONS FROM RESEARCH AND DEVELOPMENT OPERATIONS:** Except for the recordkeeping requirement under Sections 501.6 and 501.10, the provisions of this rule shall not apply to bench scale laboratory and pilot plant operations which, cumulatively at a stationary source, emit, at design production rating, 15 pounds per day or less of maximum uncontrolled VOC emissions, as defined in Section 213, and whose primary purpose is to conduct research and development into new processes and products. Bench scale research and development operations which, cumulatively at a stationary source, emit greater than 15 pounds per day of maximum uncontrolled VOC emissions shall comply with the provisions of this rule.

- 115 **EXEMPTION, LABORATORY EQUIPMENT SOLVENT CLEANING:** The provisions of Sections 308.4 and 308.5 shall not apply to solvent cleaning of bench scale laboratory equipment used exclusively for chemical or physical analyses.
- 116 **EXEMPTION, SOLVENT CLEANING OF OPERATION REGULATED BY FOOD AND DRUG ADMINISTRATION WITH \leq 15 POUNDS/DAY OF UNCONTROLLED VOC EMISSIONS:** Except for the record keeping requirements in Sections 501.7 and 501.10, the provision of Section 308.3 shall not apply to solvent cleaning of operations, subject to Food and Drug Administration (FDA) regulation, 21 CFR Parts 210 and 211, which, cumulatively at a stationary source, emit 15 pounds per day or less of maximum uncontrolled VOC emissions, provided the source provides documentation to the Air Pollution Control Officer that demonstrate that the solvent used is required by FDA for the cleanliness requirement of 21 CFR Parts 210 and 211 and that there is no available compliant solvent that meets FDA requirements.

200 DEFINITIONS

- 201 **AIR POLLUTION CONTROL DEVICE:** Equipment installed on a process vent, storage tank, production equipment exhaust systems, or combination thereof which reduces the mass of VOC emitted to the atmosphere. Examples include incinerators, carbon adsorption units, condensers, and gas absorbers. Process condensers are not considered air pollution control devices.
- 202 **BATCH PROCESS:** Batch process is any noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation and processed at one time. Batch process includes noncontinuous operations in which the equipment is fed intermittently or discontinuously. Addition of raw material and withdrawal of product do not occur simultaneously in a batch process. After each batch operation, the equipment is generally emptied before a fresh batch is started.
- 203 **CLEANUP MATERIAL:** A material (e.g., solvents) that contains VOC as defined in Section 231 used to clean parts and equipment used in organic chemicals and pharmaceuticals manufacturing operations.
- 204 **CLOSED CONTAINER:** A container which has a cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 205 **CONTAINER:** As used in the wastewater provisions, container means any portable waste management unit that has a capacity greater than or equal to 0.1 m³ in which a material is stored, transported, treated, or otherwise handled. A container includes but is not limited to drums, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships.
- 206 **CONTINUOUS PROCESS:** Continuous process is characterized by steady-state conditions in which reactants are added and products are removed simultaneously.
- 207 **COSMETICS MANUFACTURING PLANT:** Any plant producing or blending chemicals for use in cosmetic products and/or manufacturing cosmetic products by chemical processes.
- 208 **EMISSION PROFILE:** An emission profile, developed for a vent or a control device, is the VOC emission rates (in lb/hr) versus time in a period of time that is sufficient to include all emission episodes during a production run. It shall be based on either process knowledge, engineering analyses, or test data collected.
- 209 **EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101-GENERAL PROVISIONS AND DEFINITIONS.

- 210 **INDIVIDUAL DRAIN SYSTEM:** A stationary system used to convey wastewater to a waste management unit. The system includes hard piping, all process drains and junction boxes, manholes, sumps, and lift stations, conveying wastewater. A segregated storm water sewer system, which is a drain and collection system designed and operated for the sole purpose of collecting rainfall-runoff at a facility, and which is segregated from all other individual drain systems, is excluded from this definition.
- 211 **LEAK:** A leak is:
- 211.1 The dripping of liquid containing VOC in excess of three drops per minute; or
 - 211.2 A reading as methane on a portable hydrocarbon detection instrument of 500 part per million pursuant to Sections 305.5 and 305.6 as applicable or greater above background when measured within one centimeter of the source; or
 - 211.3 The appearance of a visible mist.
- 212 **MAINTENANCE WASTEWATER:** Wastewater generated by the draining of process fluid from components in the chemical manufacturing process unit into an individual drain system prior to or during maintenance activities. Maintenance wastewater can be generated during planned and unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewater include descaling of heat exchanger tubing bundles, cleaning of distillation column traps, draining of low legs and high point bleeds, draining of pumps into an individual drain system, and draining of portions of the chemical manufacturing process unit for repair.
- 213 **MAXIMUM UNCONTROLLED VOC EMISSIONS:** The maximum quantity of VOC emissions, based on maximum physical and operational design capacity including limitations contained on a Permit to Operate issued pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS, which has exited the last recovery device, such as a process condenser, but which has not yet been introduced into an air pollution control device to reduce the mass of VOC in the stream.
- 214 **ORGANIC CHEMICAL MANUFACTURING PROCESS UNIT:** Equipment, such as reactors, product separators, recovery devices, distillation units, receivers, and feed, intermediate and product storage vessels, that are assembled and connected by pipes or ducts to process raw materials and to manufacture an intended organic chemical product. An organic chemical manufacturing process unit includes pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and control devices or systems.
- 215 **ORGANIC CHEMICAL PLANT:** Any facility or operation that is engaged in producing organic chemicals and/or manufacturing products by chemical processes using organic chemicals and that has 28 as the first two digits in their Standard Industrial Classification Code as determined from the Standard Industrial Classification Manual, 1987 Edition, published by the Office of Management and Budget. Organic chemical plants may include, but are not limited to the manufacture of: industrial organic chemicals; plastic and synthetic resins, synthetic rubber, synthetic and other man made fibers; drugs; soap, detergents and cleaning preparations, perfumes, cosmetics and other toilet preparations; paints, varnishes, lacquers, enamels and allied products; agricultural chemicals; safflower and sunflower oil extracts; re-refining.
- 216 **PHARMACEUTICAL MANUFACTURING PLANT:** Any plant producing or blending chemicals for use in pharmaceutical products and/or manufacturing pharmaceutical products by chemical processes.
- 217 **POINT OF DETERMINATION:** Used in determining the initial point of evaluation for wastewater stream, point of determination is the location where the wastewater exits the process or processes, often the last recovery device. The point of determination for wastewater from research and development operations shall be the waste management unit.

- 218 **POTENTIAL TO EMIT:** The maximum physical and operational design capacity to emit a pollutant during each calendar year. Limitations on the physical or operational design capacity, including emissions control devices and limitations on hours of operation, may be considered only if such limitations are federally enforceable.
- 219 **PROCESS:** A process is a logical grouping of processing equipment which collectively functions to produce a product or isolated intermediate. A process may consist of one or more unit operations. A process includes all or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. The physical boundaries of a process are flexible, providing a process ends with a product or isolated intermediate, or with cessation of on-site processing. A nondedicated solvent recovery or nondedicated formulation operation which serves more than one process to recover or formulate numerous materials and/or products is considered as a single process.
- 220 **PROCESS CONDENSER:** A condenser whose primary purpose is to recover material as an integral part of a unit operation. To be considered as an integral part of a unit operation, that recovered material must be used in a subsequent operation at the stationary source or is a primary product of the operation. The condenser must support a vapor-to-liquid phase change for periods of source equipment operation that are above the boiling or bubble point of substance(s). Examples of process condensers include distillation condensers, reflux condensers, process condensers in line prior to the vacuum source, and process condensers used in stripping or flashing operations.
- 221 **PROCESS TANK:** A process tank is a tank, located within the bounds of a process, which is used for mixing, separating, blending, heating, treating and/or collecting material discharged from a feedstock storage tank or unit operation within the process, and which transfers this material to another unit operation within the process or a product storage tank. A separating tank is a process tank if it is covered having no exposed liquid surface, otherwise, it is a separation operation subject to Section 302. Examples of process tanks, include surge control vessels, bottoms receivers, enclosed oil and water separators, or enclosed gravity separators.
- 222 **PROCESS VENT:** A vent from a unit operation through which has VOC-containing gas stream, or has the potential to be released into the atmosphere. Examples of process vents include, but are not limited to, vents on bottom receivers, surge control vessels, reactors, filters, centrifuges, wastewater tanks, process tanks and condensers used for product recovery.
- 223 **PROCESS WASTEWATER:** Wastewater which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product. Examples are product tank drawdown or feed tank drawdown; water formed during a chemical reaction or used as a reactant; water used to wash impurities from organic products or reactants; water used to cool or quench organic vapor streams through direct contact; and condensed steam from jet ejector systems pulling vacuum on vessels containing organics.
- 224 **PRODUCTION EQUIPMENT EXHAUST SYSTEM:** An arrangement of hood, ductwork and/or stack which collects one or more process vents and discharges into the atmosphere. For the purposes of Section 303, the emission is the total amount of VOC collected and released to the atmosphere.
- 225 **RECOVERY DEVICE:** Recovery device means an individual unit of equipment capable of and used for the purpose of recovering chemicals for use, reuse, or sale. Recovery devices include, but are not limited to, absorbers, carbon adsorbers, and condensers.
- 226 **RESEARCH AND DEVELOPMENT OPERATION:** An operation whose primary purpose is for research and development of new processes and products, that is conducted under the

close supervision of technically trained personnel, and that is not involved in the manufacture of final or intermediate products for commercial purposes.

- 227 **STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any regulated air pollutant.
- 227.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- Belong to the same industrial grouping, and
 - Are located on one property or on two or more contiguous properties, and
 - Are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.
- 227.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- They belong to the same two-digit standard industrial classification code, or
 - They are part of a common production process (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material).
- 227.3 The emissions from loading and unloading of cargo carriers at the stationary source shall be considered emissions from the stationary source.
- 228 **STORAGE TANK:** A tank or other vessel that is used to store organic liquids that contain one or more VOC. The following are not considered storage tanks for the purposes of this rule:
- 228.1 Vessels that are:
- Attached to motor vehicles such as trucks, railcars, barges, or ships, and
 - Used for transporting raw materials and products in and out of the plant;
- 228.2 Pressure vessels designed to operate in excess of 204.9 kilopascals and have no leak; and
- 228.3 Process tanks.
- 229 **SURFACE IMPOUNDMENT:** A waste management unit which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or water containing free liquids. A surface impoundment is used for the purpose of treating, storing, or disposing of wastewater or residuals, and does not include injection wells. Examples of surface impoundments are equalization, settling, and aeration pits, ponds, and lagoons.
- 230 **VAPOR-TIGHT:** The concentration of volatile organic compound (VOC), measured one centimeter from the source pursuant to Section 502.5, shall not exceed 500 parts per million (expressed as methane) above background.
- 231 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101-GENERAL PROVISIONS AND DEFINITIONS.
- 232 **WASTEWATER:** Wastewater is VOC-containing water, raw material, intermediate, product, by-product, co-product, or waste material that is discarded from an organic chemical manufacturing process unit and either:
- 232.1 Contains a total VOC concentration of at least 5 parts per million by weight and has a flow rate of 0.02 liter per minute or greater; or
- 232.2 Contains a total VOC concentration of at least 10,000 parts per million by weight at any flow rate.
- Wastewater includes process wastewater and maintenance wastewater. For the purposes of this rule, noncontact cooling water is not considered a wastewater.
- 233 **WASTE MANAGEMENT UNIT:** A piece of equipment, structure, or transport mechanism used in handling, storage, treatment, or disposal of waste. Examples of a waste management

unit include a tank, surface impoundment, container, oil-water separator, individual drain system, steam stripping unit, thin-film evaporation unit, waste incinerator, and landfill.

- 234 **WATER SEAL:** A seal pot, p-leg trap, or other type of trap filled with water that has a design capability to create a water barrier between the sewer and the atmosphere.

300 STANDARDS

301 REACTORS, DISTILLATION COLUMNS, CRYSTALLIZERS, EVAPORATORS OR CENTRIFUGES:

- 301.1 A person shall not use any reactor, distillation column, crystallizer, evaporator or enclosed centrifuge which emits more than 15 pounds per day of maximum uncontrolled VOC unless such emission is vented to a VOC capture and control system which has a combined system efficiency of at least 85 percent by weight, and a control efficiency of at least 90 percent by weight, and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS and determined by the appropriate methods in Section 411.
- 301.2 A VOC capture and control system controlling more than two process vent located at a non-pharmaceutical manufacturing plant or a non-cosmetic manufacturing plant may be used to meet the control requirement of this Section as long as:
- It has an overall combined system efficiency of at least 85 percent by weight, and an overall control efficiency of at least 90 percent by weight across its inlet and outlet as determined by the appropriate methods in Section 411 and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS, or
 - or unless the combined VOC emissions from all process vents is reduced to below 33 pounds per day, as determined by the appropriate methods in Section 411 and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS.

302 SEPARATION OPERATIONS:

- 302.1 **AT PHARMACEUTICAL AND COSMETIC MANUFACTURING PLANTS:** A person shall not use any centrifuge, rotary vacuum filter, or other device at a pharmaceutical manufacturing plant or cosmetic manufacturing plant which has an exposed liquid surface where the liquid contains VOC having a VOC composite partial vapor pressure, as determined pursuant to Section 406, of 26 mm Hg (0.5 psi) or more at 20 °C (68 °F), unless it incorporates a hood or enclosure with a delivery system or ductwork to collect VOC emissions, exhausting to a carbon adsorber, or equivalent control method approved by the Air Pollution Control Officer and the EPA.
- 302.2 **AT OTHER ORGANIC CHEMICAL PLANTS:** A person shall not use any centrifuge, rotary vacuum filter, or other device at other organic chemical plant which has an exposed liquid surface where the liquid contains VOC having a VOC composite partial vapor pressure, as determined pursuant to Section 406, of 26 mm Hg (0.5 psi) or more at 20 °C (68 °F), and which emits more than 15 pounds per day of maximum uncontrolled VOC, unless such emission is vented to a VOC capture and control system which has a combined system efficiency of at least 85 percent by weight, and a control efficiency of at least 90 percent by weight, as determined by the appropriate method in Section 411 and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS.

303 DRYERS OR PRODUCTION EQUIPMENT EXHAUST SYSTEMS:

- 303.1 A person shall not use any dryer or other production equipment exhaust system which emits 330 pounds per day or more of maximum uncontrolled VOC unless such emission is vented to a VOC capture and control system which has a combined system efficiency of at least 85 percent by weight, and a control efficiency of at least 90 percent by weight, as determined by the appropriate methods in Section 411 and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS.

- 303.2 A person shall not use any dryer or production equipment exhaust system which emits less than 330 pounds on any day of maximum uncontrolled VOC unless such emissions is reduced to less than 33 pounds per day.
- 304 **PROCESS TANKS:**
- 304.1 A person shall not use any process tank containing material with a VOC composite partial vapor pressure, as determined pursuant to Section 406, of greater than 26 mm Hg at 20 °C (0.5 psi at 68 °F), unless it is a closed container as defined in Section 204, which is kept tightly covered at all times except when accessing the container.
- 304.2 A person shall not use any process tank which contains material with a VOC composite partial vapor pressure, as determined pursuant to Section 406, of greater than 26 mm Hg at 20 °C (0.5 psi at 68 °F), and which emits more than 15 pounds per day of maximum uncontrolled VOC, unless such emission is vented to a VOC capture and control system which has a combined system efficiency of at least 85 percent by weight, and a control efficiency of at least 90 percent by weight, as determined by the appropriate methods in Section 411 and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS.
- 305 **WASTEWATER:** A person shall not use any equipment, such as wastewater tank, container, surface impoundment, individual drain system, and oil-water separator, that receives, manages, or treats wastewater at the point of determination, as defined in Section 217, with a VOC concentration of 500 parts per million by weight or higher and a flow rate of greater than or equal to one liter per minute, or with a VOC concentration of 10,000 part per million per weight or higher at any flow rate, unless the equipment meets the applicable equipment standard listed below:
- 305.1 A person shall install a fixed roof on any wastewater tank that is not used for wastewater mixing, heating, or treating with an exothermic reaction.
- 305.2 A person shall install one of the following controls on any wastewater tank that is used for wastewater mixing, heating, or treating with an exothermic reaction:
- A fixed roof and closed-vent system that routes VOC to a control device with a control efficiency of at least 90 percent by weight, as determined by the appropriate methods in Sections 411 and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS;
 - External floating roof or fixed roof with internal floating roof in compliance with standards described in 40 CFR 63.119(b), (c), (d), and 63.120
- 305.3 A person shall install a cover and submerged fill pipe on any container with a capacity greater than or equal to 112 gallons.
- 305.4 A person shall install a cover and closed-vent system that routes VOC to a control device with a control efficiency of at least 90 percent by weight, as determined by the appropriate methods in Section 411 and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS, on any surface impoundment.
- 305.5 A person shall install a cover and closed-vent system that routes VOC to a control device with a control efficiency of at least 90 percent by weight, as determined by the appropriate methods in Section 411 and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS, or a solid, vapor-tight, as defined in Section 230, full contact fixed cover which totally encloses the liquid contents on any individual drain system. The cover openings shall be closed and sealed, except when the opening is being used for inspection, maintenance, or wastewater sampling. The concentration of VOC shall be measured using Section 502.5 at one centimeter from the fixed cover semiannually to ensure that there are no emission leaks greater than 500 parts per million (expressed as methane). Any emission leak greater than 500 parts per million must be reported to the Air Pollution Control Officer as soon as reasonably possible, but not later than one hour after its detection. If the Air Pollution Control Officer can not be contacted, the report shall be made at the commencement of the next regular working day. The leak shall be repaired within 15 calendar days.
- 305.6 A person shall install one of the following controls on any oil-water separator:

- a. Fixed roof and closed-vent system that routes VOC to a control device with a control efficiency of at least 90 percent by weight, as determined by the appropriate methods in Section 411 and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS.
 - b. External floating roof or fixed roof with internal floating roof in compliance with standards described in 40 CFR 63.119(b), (c), (d), and 63.120.
 - c. A solid, vapor-tight, as defined in Section 230, full contact fixed cover which totally encloses the liquid contents, with all the cover openings closed and sealed, except when the opening is being used for inspection, maintenance, or wastewater sampling. The concentration of VOC shall be measured using Section 502.5 at one centimeter from the fixed cover semiannually to ensure that there are no emission leaks greater than 500 parts per million (expressed as methane). Any emission leak greater than 500 parts per million must be reported to the Air Pollution Control Officer as soon as reasonably possible, but not later than one hour after its detection. If the Air Pollution Control Officer can not be contacted, the report shall be made at the commencement of the next regular working day. The emission leak shall be repaired within 15 calendar days.
 - d. A solid, sealed, gasketed, fixed cover which totally encloses the liquid contents, with all the cover openings closed and sealed, except when the opening is being used for inspection, maintenance, or wastewater sampling. The cover may include a pressure/vacuum valve. The concentration of VOC shall be measured using Section 502.5 at one centimeter from the roof seals, fixed cover, access doors, pressure/vacuum valve, and other openings shall not exceed 500 parts per million (expressed as methane) above background. Roof seals, fixed cover, access doors, and other openings shall be inspected semiannually to ensure that there are no emission leaks greater than 500 parts per million. Any emission leak greater than 500 parts per million must be reported to the Air Pollution Control Officer as soon as reasonably possible, but not later than one hour after its detection. If the Air Pollution Control Officer can not be contacted, the report shall be made at the commencement of the next regular working day. The leak shall be repaired within 15 calendar days.
- 305.7 A person complying with the notification requirements in Section 305.5 or Sections 305.6(c) and (d) shall be exempt from the provisions of Rule 602, BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.
- 305.8 One or more safety devices which vent directly to the atmosphere may be used on the wastewater tank, cover, closed-vent system, or control device provided each safety device meets all of the following conditions:
- a. The safety device is not used for planned or routine venting of organic vapors from the tank or the closed-vent system connected to a control device; and
 - b. The safety device remains in a closed, sealed position at all times except when an unplanned event requires that the device open for the purpose of preventing physical damage or permanent deformation of the tank, cover, closed-vent system, or control device in accordance with good engineering and safety practices for handling flammable, combustible, explosive, or other hazardous materials. An example of an unplanned event is a sudden power outage.
- 306 **LIQUID TRANSFER:** A person shall not transfer material with a VOC composite partial vapor pressure, determined pursuant to Section 406, of greater than 26 mm Hg at 20 °C (0.5 psi at 68 °F) into any tank truck, trailer, railroad tank car, or storage tank of 2000 gallons capacity or greater, unless VOC emissions during transfer are controlled with one of the following control system:
- 306.1 A vapor balance system with all the following components:
- a. A permanent submerged fill pipe which discharges at not more than six inches from the bottom of the tank; and,

- b. A submerged fill pipe which discharges at not more than six inches from the bottom of the tanker truck or railcar, and
 - c. A vapor return line which transfers at least 90 percent by weight of displaced VOC vapor from the stationary storage tank being filled back to the mobile or stationary supply tank; and,
 - d. A pressure-vacuum relief valve with relief settings of not less than ± 0.03 psig.
- 306.2 A VOC capture and control system which has a combined system efficiency of at least 85 percent by weight, and a control efficiency of at least 90 percent by weight, and is permitted pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS and determined by the appropriate methods in Section 411.
- 306.3 An internal or external floating roof which complies with the procedures described in 40 CFR 63.119(b), (c), (d), and 63.120.
- 307 **STORAGE TANKS:**
- 307.1 A person shall install pressure/vacuum valve with a minimum pressure setting of 0.03 psi and a minimum vacuum setting of 0.03 psi, or equivalent control method permitted pursuant to Rule 201 - GENERAL PERMIT REQUIREMENTS, on all vents of any storage tank, greater than 55 gallons and less than or equal to 40,000 gallons, that stores material with a VOC composite partial vapor pressure, as determined pursuant to Section 406, of greater than 78 mm Hg at 20 °C (1.5 psi at 68 °F). Storage tanks with capacity greater than 40,000 gallons are subject to Rule 446-STORAGE OF PETROLEUM PRODUCTS.
- 307.2 A storage tank with a capacity of 55 gallons or less that stores material with a VOC composite partial vapor pressure of greater than 78 mm Hg at 20 °C (1.5 psi at 68 °F) shall be a closed container which is kept tightly covered at all times except when accessing the container.
- 308 **CLEANUP AND STORAGE REQUIREMENTS:** A person using cleanup material shall conform to all the following requirements:
- 308.1 A person shall use closed containers for the storage of disposal of cloth, paper, or sponges used for solvent cleanup; and
- 308.2 A person shall store fresh or spent cleanup materials in closed containers; and
- 308.3 A person shall not use a cleanup material to perform in-line solvent cleaning of process units and piping unless:
- a. The emissions are vented to a VOC capture and control system which has a combined system efficiency of at least 85 percent by weight, and a control efficiency of at least 90 percent by weight, or
 - b. The solvent complies with a VOC content limit of 200 grams per liter and a vapor pressure limit of less than 45 mmHg at 68 °F.
- 308.4 Prior to September 25, 2009, except for laboratory equipment cleaning exempt pursuant to Section 115, a person shall not use a solvent to perform maintenance solvent cleaning including but not limited to mechanical parts and work areas unless the solvent complies with a VOC content limit of 50 grams per liter (0.42 pounds per gallon).
- 308.5 Effective September 25, 2009, except for laboratory equipment cleaning exempt pursuant to Section 115, a person shall not use a solvent to perform maintenance solvent cleaning including but not limited to mechanical parts and work areas unless the solvent complies with a VOC content limit of 25 grams per liter (0.21 pounds per gallon).
- 400 **ADMINISTRATIVE REQUIREMENTS**
- 401 **PETITION FOR EXEMPTION:** A person seeking an exemption for an organic chemical plant or a process vent, which is exempt pursuant to Sections 110, 111, 112, 113, 114, or 116 shall submit to the Air Pollution Control Officer a petition for exemption. Such petition shall include a process diagram, and maximum uncontrolled VOC mass emission rate determined pursuant to Section 407 and all pertinent information to support a basis for granting/denying

petition. The Air Pollution Control Officer shall approve the petition unless it fails to demonstrate that the emission rate is below the cutoff level specified in Sections 110, 111, 112, 113, 114, or 116. The approved petition shall be effective until a modification, which results in an application for permit modification pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS, is made to the plant or process vent. A person shall comply with the following petition schedule:

- 401.1 **EXISTING PLANT OR PROCESS VENT:** The petition for exemption for an organic chemical plant or a process vent in existence prior to the adoption of this rule must be submitted by January 1, 1999.
- 401.2 **NEW OR MODIFIED PLANT OR PROCESS VENT:** The petition for exemption for a new or modified organic chemical plant or a process vent must be submitted 30 calendar days before startup.
- 402 **AUTHORITY TO CONSTRUCT APPLICATION:** Any person installing a new or using an existing emission control equipment, as a means of complying with this rule, shall by January 1, 1999, submit an Authority to Construct application pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS to the Air Pollution Control Officer, unless the emission control equipment is currently under District permit and the use of the existing emission control equipment, without modification to the system, results in compliance with this rule.
- 403 **OPERATION AND MAINTENANCE PLAN:** Any person using an approved emission control device as a means of complying with this rule, shall submit, with the application for Authority to Construct, pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS, an Operation and Maintenance Plan for the emission control device to the Air Pollution Control Officer for approval. Operation and Maintenance Plans for emission control devices installed prior to the adoption of this rule, if not previously submitted, must be submitted by January 1, 1999, and receive approval of the Air Pollution Control Officer. The plan shall specify key system operating parameters, such as temperatures, pressures, and/or flow rates, necessary to determine compliance with this rule and describe in detail procedures to maintain the approved emission control device and maintenance procedures that demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. The plan shall also specify which records must be kept to document these operations and maintenance procedures. These records shall comply with the requirements of Sections 501.1, 501.2 and 501.10. The plan shall be implemented upon approval by the Air Pollution Control Officer.
- 404 **PROCEDURE FOR PROCESSING AN OPERATION AND MAINTENANCE PLAN:**
- 404.1 **APPROVAL OF PLAN:** The Air Pollution Control Officer shall determine whether the Operation and Maintenance Plan meets the requirements of Section 403 not later than 30 days after receipt of the Plan, or within a longer period of time agreed upon by the parties. The Air Pollution Control Officer shall approve in writing an Operation and Maintenance Plan unless it fails to demonstrate continuous operations of the emissions control equipment during periods of emissions-producing operations, according to the standard set forth in this rule, and/or it fails to specify which daily records, in accordance with the requirements of Sections 501.1, 501.2 and 501.10, are to be kept to document the Operation and Maintenance procedures set forth in the Plan.
- 404.2 **REVISION OF PLAN:** If the Air Pollution Control Officer does not approve in writing an Operation and Maintenance Plan, the source shall receive written notice of the deficiency, and shall have an additional 30 days from the date of the notification of the deficiency to correct and resubmit the Operation and Maintenance Plan. The decision of the Air Pollution Control Officer regarding the resubmitted Operation and Maintenance Plan shall be final. Failure to correct the deficiency in an Operation and Maintenance Plan upon resubmittal shall constitute a violation of this rule that is subject to the penalties set forth in Health and Safety Code section 42400 *et seq.*
- 405 **WASTEWATER REPORT:** A person shall submit a wastewater report to the Air Pollution Control Officer by January 1, 1999, and annually thereafter by February 1st. The report shall

identify and quantify each wastewater stream at the point of determination, as defined in Section 217, discharged from an organic chemical manufacturing process unit. Information data and supporting test results, records or calculations on location, source of wastewater, VOC concentration as determined pursuant to Section 502.3 or using owner knowledge of the wastewater, and annual average flow rate shall be submitted for each wastewater stream. Examples of information that could constitute knowledge include material balances, records of chemical purchases, process stoichiometry, or previous test results provided the results are still representative of current operating practices at the process unit(s). One of the following methods shall be used to determine flow rate:

- 405.1 Use the maximum annual production capacity of the process unit, knowledge of the process, and mass balance information to estimate annual average wastewater flow rate.
- 405.2 Select the highest annual average flow rate of wastewater from historical records representing the most recent year of operation.
- 405.3 Measure the flow rate of the wastewater at the point of determination during conditions that are representative of average wastewater generation rates.

Notwithstanding the provisions of this section, the Air Pollution Control Officer may require testing pursuant to Section 502.3 to determine the VOC concentration.

- 406 **CALCULATION FOR VOC COMPOSITE PARTIAL VAPOR PRESSURE:** VOC composite partial vapor pressure is the sum of the partial vapor pressures of the compounds defined as VOCs, and shall be calculated by the following equation:

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i)/MW_i}{\frac{W_w}{MW_w} + \sum_{i=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

- Where: Pp_c = VOC composite partial vapor pressure at 20°C, in mm Hg.
 W_i = Weight of the "i"th VOC compound, in grams, as determined by ASTM E 260-96 (2006).
 W_w = Weight of water, in grams as determined by ASTM D 3792-05.
 W_e = Weight of the "i"th exempt compound, in grams, as determined by ASTM E 260-96 (2006).
 Mw_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.
 Mw_w = Molecular weight of water, 18 grams per g-mole.
 Mw_e = Molecular weight of the "i"th exempt compound, in grams per g-mole, as given in chemical reference literature.
 Vp_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg, as determined by Section 502.4 of this rule.

An alternate method for calculating the composite vapor pressure or determining the variables in the equation above may be allowed if approved in writing by the Air Pollution Control Officer and EPA.

- 407 **DETERMINATION OF MAXIMUM UNCONTROLLED VOC MASS EMISSION RATE:** Any person petitioning for an exemption pursuant to Section 401 shall determine the maximum uncontrolled VOC mass emission rate as follows:
- 407.1 **POTENTIAL TO EMIT ≥ 25 TPY:** A stationary source with a potential to emit 25 tons per year or more of VOC from organic chemical plants shall determine the maximum uncontrolled VOC emission rate by using emission testing pursuant to Section 409.
 - 407.2 **POTENTIAL TO EMIT <25 TPY:** A stationary source with a potential to emit of less than 25 tons per year of VOC from organic chemical plants shall determine the

maximum uncontrolled VOC emissions by using engineering assessment pursuant to Section 408 or emission testing pursuant to Section 409.

407.3 **OPEN-TYPE PROCESS TANK:** A person shall determine the maximum uncontrolled VOC emissions by using the most recent version of EPA's computer model, WATER8. The concentration of each individually speciated VOC in the process stream with the potential to be emitted into the atmosphere, shall be determined by EPA Method 305 of 40 CFR Part 63, Appendix A.

407.4 **DETERMINATION CRITERIA:** The emission testing or engineering assessment shall be made using one of the following criteria:

a. **FOR CONTINUOUS PROCESS:** The maximum daily uncontrolled VOC emissions shall be determined based on District permitted or highest process/production rate in any calendar day.

b. **FOR BATCH PROCESS:** The maximum daily uncontrolled VOC emissions shall be the highest emission rate in any 24 hour period based on District permitted or highest process/production rate. An emission profile shall be used to determine highest 24 hour period emission rate and shall be submitted along with the exemption petition pursuant to Section 401.

408 **DETERMINATION OF VOC MASS EMISSION RATE USING ENGINEERING ASSESSMENT:** A person shall conduct engineering assessment which includes, but is not limited to, the following:

408.1 Previous test results provided the tests are representative of current operating practices at the process unit.

408.2 Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

408.3 Maximum flow rate, VOC emission rate, concentration, or other relevant parameter specified or implied within a permit limit applicable to the process vent.

408.4 Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

a. Use of material balances based on process stoichiometry to estimate maximum VOC concentrations,

b. Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities,

c. Estimation of VOC concentrations based on saturation conditions.

408.5 All data, assumptions, and procedures used in the engineering assessment shall be documented and provided to the District.

Notwithstanding the provisions of this section, the Air Pollution Control Officer may require emission testing pursuant to Section 409 to verify compliance.

409 **DETERMINATION OF VOC MASS EMISSION RATE USING EMISSION TESTING:**

409.1 A person shall conduct emission testing using test methods in Section 502 and the following test durations:

a. **CONTINUOUS PROCESS:** The test shall consist of three 1-hour runs.

b. **BATCH PROCESS:** The duration shall be the time from the start to the completion of a batch cycle unless the test is conducted under worst-case condition described in Section 411.3 (b) (1) or (2). For batch cycle or test period greater than 3 hours, a single test conducted over the duration of the batch cycle or test period shall be used for emission determination. For batch cycle or test period less than or equal to 3 hour, testing shall include three 1-hour runs.

409.2 A person conducting any emission test for the purpose of the petition for exemption pursuant to Section 401 shall comply with the following source test notification and reporting requirements:

a. At least 30 days prior to the scheduled test date submit the source test plan.

b. At least 7 days prior to the source test date notify Air District staff of the exact date and time scheduled for the source test.

- c. The source test observation and evaluation fee as authorized under Rule 301-PERMIT FEES - STATIONARY SOURCE must be submitted with the petition for exemption.

410 **CALCULATION FOR VOC MASS EMISSION RATE, CONTROL EFFICIENCY, AND COMBINED SYSTEM EFFICIENCY**

410.1 **VOC MASS EMISSION RATE:** VOC mass emission rate shall be calculated using the following equation:

$$\text{VOC Mass Emission Rate} = (Q)(C)(60 \text{ min/hr})$$

- Where: Q = the flow rate, in scfm, as determined by Section 408 or Sections 409 and 502.
 C = the VOC mass concentration, in lb/scf, as determined by Section 408 or Sections 409 and 502.

410.2 **CONTROL EFFICIENCY:** Expressed in percent, control efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously. Control efficiency shall be determined using the following equation:

$$\% \text{Control Efficiency} = \frac{(M_i - M_o)}{M_i} \times 100\%$$

- Where: M_i = inlet VOC mass emission rate, in lb/hr.
 M_o = outlet VOC mass emission rate, in lb/hr.

410.3 **COMBINED SYSTEM EFFICIENCY:** A capture efficiency of 100% can be assumed for any capture system which is piped to the control equipment and has no leak. The combined system (capture and control) efficiency is calculated as follows:

$$\% \text{System Efficiency} = \% \text{CE} \times \% \text{CLE} / 100\%$$

- Where: %System Efficiency = %capture and control efficiency.
 %CE = %control efficiency, as determined by Section 410.2.
 %CLE = %capture efficiency, as determined by Section 502.2

411 **PROCEDURES FOR DEMONSTRATING COMPLIANCE:** A person shall demonstrate compliance with Sections 301, 302, 303, 304, 305 and 306.2 by using the applicable procedure listed below, Section 411.1, or 411.2, or 411.3.

411.1 A stationary source with a potential to emit of less than 25 tons per year of VOC from the organic chemical plants may use the condenser exit gas temperature to calculate the removal efficiency of the condenser in demonstrating the required emission reduction if the condenser system is equipped with a temperature sensor and recorder, such that the condenser exit gas temperature can be measured at 15-minute intervals when the condenser is functioning in cooling a vent stream. Notwithstanding the requirements in this section, the Air Pollution Control Officer may require source testing to verify compliance.

411.2 A stationary source with a potential to emit of less than 25 tons per year of VOC from the organic chemical plants shall determine percent reduction by conducting a performance test, using the procedure in Section 411.3, or a design evaluation. The design evaluation shall include documentation demonstrating that the control device being used achieves the required reduction during the emission episodes in which it

is functioning in reducing emissions. This documentation shall include a description of the gas stream which enters the control device, flow and VOC content, and all pertinent control device operating parameters which resulted in the required reduction. The calculation shall be based on engineering assessment described in Section 408. Notwithstanding the requirements in 411.2, the Air Pollution Control Officer may require source testing to verify compliance.

- 411.3 A stationary source with a potential to emit of greater than or equal to 25 tons per year of VOC from the organic chemical plants shall demonstrate compliance by conducting a performance test based on the following procedure:
- a. Perform test pursuant to Sections 409 and 502 at the inlets and outlets of the capture and control devices and use the equations in Section 410 to determine percent combined system (capture and control) efficiency and control efficiency in total VOC.
 - b. Test capture and control devices over absolute or hypothetical worst-case conditions, or over normal conditions, provided the operation of the devices is limited to the conditions that existed during testing by District permit.
 1. **ABSOLUTE WORST-CASE CONDITION:** It is either:
 - i. The period in which the inlet to the control device contains at least 50 percent of the maximum VOC load capable of being vented to the control device over any 8-hour period, or
 - ii. A 1-hour period of time in which the inlet to the control device will contain the highest VOC mass loading rate, in lbs/hr, capable of being vented to the control device. An emission profile as described in Section 208 shall be used to determine maximum VOC loading periods.
 2. **HYPOTHETICAL WORST-CASE CONDITION:** The simulated test condition that, at a minimum, contain the highest total average hourly VOC load that would be predicted to be vented to the control device using the emissions profile described in Section 208. The highest total average hourly VOC load is determined by first dividing the VOC emissions from each episode by the duration of each episode, in hours, and selecting the highest hourly block average.
 3. **NORMAL CONDITION:** Test condition which is based on the process/production rate, stream composition, temperature, and flow rate limits set in District permit.

412 **VIOLATION:** Any leak originally identified by the Air Pollution Control Officer is a violation.

500 MONITORING AND RECORDS

- 501 **RECORD KEEPING:** In addition to any existing permit conditions issued pursuant to Rule 201-GENERAL PERMIT REQUIREMENTS, a person subject to this rule shall comply with the following requirements:
- 501.1 **CONTROL EQUIPMENT:** A person using an emission control system pursuant to Section 300 shall maintain on-site the records required by the Operation and Maintenance Plan in Section 403 on a daily basis.
 - 501.2 **ORGANIC COMPOUND AND WASTEWATER PROCESSING RECORDS:** A person subject to the capture and/or control requirement of Sections 301, 302, 303, 304, 305 or 306 shall maintain on-site a current list of organic compounds in use including the vapor pressure of each compound at 20°C. In addition, a person shall:
 - a. **FOR CONTINUOUS PROCESS:** Keep daily records on-site of the types and amounts of organic compounds used and produced by each organic chemical manufacturing process unit. Keep daily records on-site of the amount of wastewater received, managed or treated by each wastewater process equipment.
 - b. **FOR BATCH PROCESS:** Keep records on-site of each production batch step, including starting and completion time and date, and the types and

- amounts of organic compounds used and produced by each organic chemical manufacturing process unit. Keep records on-site of each treatment batch, including starting and completion time and date, and the amount of wastewater received, managed or treated by each wastewater process equipment.
- 501.3 **WASTEWATER REPORT:** For any equipment that receives, manages or treats wastewater, a person shall maintain on-site an annual wastewater report prepared pursuant to Section 405.
- 501.4 **EXEMPTION, STATIONARY SOURCE WITH \leq 15 POUNDS/DAY UNCONTROLLED VOC EMISSION FROM ORGANIC CHEMICAL PLANTS:** A person seeking to satisfy the conditions of Section 110 shall:
- FOR CONTINUOUS PROCESS:** Keep daily records on-site of the types, amounts, and VOC content of organic compounds used and produced.
 - FOR BATCH PROCESS:** Keep records on-site of the types, amounts, and VOC content of organic compounds used and produced by each production batch including starting and completion time and date.
- 501.5 **EXEMPTION, PROCESS VENT, PROCESS TANK, NON-PHARMACEUTICAL NON-COSMETIC WITH \leq 15 POUNDS/DAY UNCONTROLLED VOC EMISSION:** A person seeking to satisfy the conditions of Section 111, 112 or 113 shall:
- FOR CONTINUOUS PROCESS:** Keep daily records on-site of the types, amounts, and VOC content of organic compounds used and produced by each organic chemical manufacturing process unit.
 - FOR BATCH PROCESS:** Keep records on-site of each production batch, including starting and completion time and date, and types, vapor pressure, amounts, and VOC content of organic compounds used and produced by each organic chemical manufacturing process unit.
- 501.6 **EXEMPTION, RESEARCH AND DEVELOPMENT OPERATIONS:** A person seeking to satisfy the conditions of Section 114 shall keep the following records on-site:
- For cleanup materials, monthly records of the types, amounts, and VOC content of cleanup materials used and shall determine the daily usage by dividing the monthly usage by the number of operating days during the month, and
 - For all other organic compounds, daily records of type, amount, and VOC content of each organic compound used and produced. When requested by the Air Pollution Control Officer, the VOC emissions for the specified day shall be calculated and submitted to the Air Pollution Control Officer.
- 501.7 **EXEMPTION, SOLVENT CLEANING OF OPERATION REGULATED BY FDA:** A person seeking to satisfy the conditions of Section 116 shall keep daily records on-site of the types, amounts, and VOC content of cleaning solvent used.
- 501.8 **CLEANUP MATERIALS:** Monthly records of the total applied volume of materials used for cleanup shall be kept on-site. The records shall include the name/code/manufacturer and maximum volatile organic compound content of the cleanup material, as applied, after any mixing or thinning as recommended by the manufacturer. The VOC content shall be displayed as grams of volatile organic compound per liter of coating (or pounds of volatile organic compound per gallon), including water and exempt compounds.
- 501.9 **SOURCE TEST REPORT:** Each owner or operator of a stationary source shall keep on-site copies of all applicable source reports.
- 501.10 **DURATION OF RECORDS:** Such records (electronic files or on paper) shall be maintained on-site for a continuous five-year period and made available to the Air Pollution Control Officer upon request.
- 502 **TEST METHODS:** The performance tests for demonstrating compliance with the requirements of this rule shall be run using the following:
- 502.1 **VOC MASS EMISSION RATE OR CONTROL EFFICIENCY:** VOC mass emission rate or control efficiency shall be determined in accordance with EPA Method 18, 25

or 25A, EPA Method 1 or 1A, EPA Method 2, 2A, 2B or 2C, EPA Method 3 and EPA Method 4 (whichever combination most applicable).

- 502.2 **DETERMINATION OF COLLECTION EFFICIENCY:** Collection efficiency shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:
- a. Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
 - b. The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency"; or
 - c. Any other method approved in writing by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 502.3 **VOC CONCENTRATION IN WASTEWATER:** The total VOC concentration in wastewater shall be determined in accordance with EPA Method 305 or 25D.
- 502.4 **VAPOR PRESSURE:** Vapor pressure of a VOC shall be determined in accordance with ASTM Method D2879-97 (2007), or may be obtained from the most current edition of a published source, including, but not limited to:
- a. *The Vapor Pressure of Pure Substances*, Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York.
 - b. *Perry's Chemical Engineer's Handbook*, McGraw-Hill Book Company.
 - c. *CRC Handbook of Chemistry and Physics*, Chemical Rubber Publishing Company.
 - d. *Lange's Handbook of Chemistry*, John Dean, editor, McGraw-Hill Book Company.
- 502.5 **LEAK DETECTION:** Concentration of VOC in leaks shall be measured using a portable gas detector as prescribed in U.S. EPA Method 21.
- 502.6 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

RULE 465 POLYESTER RESIN OPERATIONS

Adopted 2-6-97

(Amended 6-4-98, 9-25-08)

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100 GENERAL

- 101 **PURPOSE:** The purpose of this rule is to reduce emissions of volatile organic compounds from polyester resin operations at each stage of the polyester resin operation.
- 102 **APPLICABILITY:** This rule applies to persons who operate polyester resin operations within Sacramento County.
- 103 **EXEMPTION - LOW USAGE:** The provisions of this rule, other than the record keeping requirements of Section 501, shall not apply to any person operating a polyester resin operation where the volume of polyester resin materials used is less than 20 gallons per month.
- 104 **EXEMPTION - CLEANING MATERIAL REQUIREMENTS:** Prior to September 25, 2009, the provisions of Section 303 shall not apply to the cleaning of molds, spray equipment or other dispensing equipment tools used in gel coat or specialty resin operations that come in direct contact with polyester resin products, provided that the usage of cleaning materials does not exceed 16 gallons per month. This exemption expires on September 25, 2009.
- 105 **SEVERABILITY:** If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.

200 DEFINITIONS

- 201 **AIRLESS SPRAY EQUIPMENT:** Equipment for applying materials by use of fluid pressure without atomizing air, including heated airless spray.
- 202 **AIR-ASSISTED AIRLESS SPRAY EQUIPMENT:** Equipment for applying materials by use of fluid pressure to atomize coating and air pressure between 0.1 and 10 psig to adjust the spray pattern.
- 203 **CATALYST:** A substance added to resin to initiate or promote polymerization.
- 204 **CLEANING MATERIAL:** Any material containing a volatile organic compound (VOC) and used to clean hands, work areas, tools, molds, application equipment, and any other equipment related to a polyester resin operation.
- 205 **CLOSED CONTAINER:** A container which has a cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 206 **CLOSED MOLD SYSTEM:** A method of forming objects from polyester resin material by placing the polyester resin material in a confining mold cavity and applying pressure and/or heat.
- 207 **CONTROL SYSTEM:** Includes a control device and a collection system.
- 208 **ELECTROSTATIC SPRAY EQUIPMENT:** Equipment used to apply materials by charging atomized particles that are deposited by electrostatic attraction.

- 209 **ENCLOSED GUN CLEANER:**
209.1 A device that is used for the cleaning of spray guns, pots, cups and hoses, that has an enclosed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or
209.2 A device that is used for the cleaning of spray guns, pots, cups and hoses, that has a remote reservoir, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the remote reservoir.
- 210 **EXEMPT COMPOUND:** For the purposes of this rule, “exempt compound” has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 211 **GEL COAT:** A polyester resin topcoat that provides a cosmetic enhancement and improves resistance to degradation from exposure to the environment. A gel coat may be pigmented or may be clear.
- 212 **HIGH-VOLUME LOW-PRESSURE (HVLP) APPLICATION EQUIPMENT:** Equipment used to apply coatings by means of a gun which is designed to be operated and which is operated between 0.1 and 10.0 psig air pressure measured dynamically at the center of the air cap and at the air horns.
- 213 **LOW-VOLUME-LOW PRESSURE (LVLP) APPLICATION EQUIPMENT:** Spray coating application equipment with air pressure between 0.1 and 10.0 pounds per square inch gauge (psig) and air volume less than 15.5 cfm per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 214 **MONOMER:** An organic compound that combines with itself, or other similar compounds, to become a cured thermosetting resin.
- 215 **NON-COMPLIANT MATERIAL:** A material that does not comply pursuant to Rule 107, ALTERNATIVE COMPLIANCE or Section 301.2, and one of the following applies:
215.1 The material exceeds the monomer content limits and vapor suppressant limits specified by Sections 301.1a and 301.1b and is not used in a closed mold system as specified by Section 301.1c, and the polyester resin operation is in excess of the allowable volume per Section 103; or
215.2 The cleaning material exceeds the VOC content limit specified by Section 303 and is not used in an enclosed gun cleaner and the polyester resin operation is in excess of the allowable volume per Section 103 and the cleaning material is in excess of the allowable volume per Section 104.
- 216 **POLYESTER RESIN:** Unsaturated polyester resin such as isophthalic, orthophthalic, halogenated, bisphenol-A, vinyl-ester, or furan resin; cross-linking agent; catalyst, gel coat, inhibitor, accelerator, promoter, and any other VOC-containing material comprising a resin made from polyester. Inert filler and cleaning material are excluded from this definition.
- 217 **POLYESTER RESIN OPERATION:** The production or rework of products by mixing, pouring, hand lay-up, impregnating, injecting, forming, winding, spraying, and/or curing unsaturated polyester resin materials with fiberglass, fillers, or any other reinforcement materials, and associated cleanup.
- 218 **POLYMER:** A chemical compound comprised of a large number of chemical units and which is formed by the chemical linking of monomers.
- 219 **POLYMERIZATION:** to transform from a liquid to a solid or semi-solid state to achieve desired product physical properties, including hardness.

- 220 **RESIN:** Any of a class of organic polymers of natural or synthetic origin used in reinforced products to surround and hold fibers or filler particles, and is solid or semisolid in the cured state.
- 221 **SPECIALTY RESIN:** Any halogenated, furan, bisphenol-A, vinyl-ester, or isophthalic resin used to make products for exposure to one or more of the following extreme environmental conditions: acute or chronic exposure to corrosive agents, caustic agents, acidic agents, or flame.
- 222 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101- GENERAL PROVISIONS AND DEFINITIONS.
- 223 **VAPOR SUPPRESSANT:** A substance added to resin to minimize the outward diffusion of monomer vapor into the atmosphere.
- 224 **WASTE MATERIAL:** Includes, but is not limited to, any paper or cloth used for cleaning operations, waste resins, or any spent cleaning materials.

300 STANDARDS

301 PROCESS AND CONTROL REQUIREMENTS:

301.1 Each polyester resin operation shall comply with one of the following process or control requirements:

- a. Use low-VOC polyester resins with the following monomer content:
 1. Resins, except for specialty resins and gel coats, which contain no more than 35% by weight as applied, as determined by Section 502.3.
 2. Pigmented gel coats which contain no more than 45% by weight as applied, as determined by Section 502.3.
 3. Specialty resins and clear gel coats which contain no more than 50% by weight as applied, as determined by Section 502.3.
- b. A polyester resin material containing a vapor suppressant, such that weight loss from VOC emissions does not exceed 60 grams per square meter of exposed surface area during resin polymerization, as determined by Section 502.1.
- c. Use of a closed-mold system.

301.2 As an alternative to Section 301.1, a source may install and operate an emissions control system that:

- a. Has been permitted by the Air Pollution Control Officer, pursuant to Rule 201, GENERAL PERMITTING REQUIREMENTS, and
- b. Provides an overall system efficiency, as determined by Section 404, of not less than 90%, and
- c. Complies with the requirements of Section 405.

302 **SPRAY APPLICATION REQUIREMENTS:** Spray application of polyester resin materials shall only be performed using one or more of the following application methods:

- 302.1 airless,
- 302.2 air-assisted airless,
- 302.3 high-volume low-pressure (HVLP),
- 302.4 low-volume/low-pressure (LVLP),
- 302.5 electrostatic spray equipment or
- 302.6 Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency.

303 CLEANING MATERIAL REQUIREMENTS:

- 303.1 Prior to September 25, 2009, a person shall not use cleaning materials containing more than 1.7 pounds of VOC per gallon (204 g/l) as applied and as determined by Section 502.2, unless the material is used in an enclosed gun cleaner.
- 303.2 Effective September 25, 2009, a person shall not use cleaning materials containing more than 0.21 pounds of VOC per gallon (25 g/l) as applied and as determined by Section 502.2.

304 STORAGE AND DISPOSAL REQUIREMENTS:

- 304.1 Each polyester resin operation shall use closed containers to store all polyester resin materials, cleaning materials, and any unused VOC-containing materials, except when accessed for use.
- 304.2 Each polyester resin operation shall use closed containers for the disposal of all uncured polyester resin materials, cleaning materials, waste materials, and any unused VOC-containing materials.

400 ADMINISTRATIVE REQUIREMENTS**401 CALCULATION FOR DETERMINING VOC WEIGHT PER VOLUME OF MATERIAL:**

The weight of VOC per volume of material shall be calculated by the following equation:

$$\text{Grams VOC per liter of material} = \frac{W_s - W_w - W_{ec}}{V_m}$$

Where: W_s = weight of all volatile compounds in grams
 W_w = weight of water in grams
 W_{ec} = weight of exempt compounds in grams
 V_m = volume of the material in liters

- 402 CALCULATION FOR DETERMINING PERCENT MONOMER (STYRENE) CONTENT AS APPLIED:** The percent monomer content of a resin as applied shall be calculated by the following equations. Batch weight and styrene weight calculation shall be completed to provide inputs into percent monomer equation.

$$\text{Batch Weight} = R + F + P + O$$

Where: R = Resin Weight
 F = Filler Weight
 P = Pigment Weight
 O = Other Additives Weight

$$\text{Styrene Weight} = R \times \frac{SP}{100}$$

Where: R = Resin Weight
 SP = % Styrene in Resin (from Manufacturer)

$$\text{Percent Monomer} = \frac{\text{Styrene Weight}}{\text{Batch Weight}} \times 100$$

- 403 CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the respective VOC mass concentration and volumetric flowrate, pursuant to Section 502.6 and the following equation:

$$M = (Q)(C)(60 \text{ min/hr}) \quad [\text{Calculated upstream and downstream}]$$

Where: M = VOC mass emission rate (upstream/downstream), in lb/hr.
 Q = the volumetric flowrate at the inlet (upstream) or exhaust stack outlet (downstream), in scfm.
 C = the VOC mass concentration at the inlet (upstream) or outlet (downstream), in lb/scf, as measured pursuant to Section 502.6.

The percent control efficiency is calculated as follows:

$$\%CE = \frac{(M_u - M_D)}{M_u} \times 100$$

Where: CE = control efficiency.
 M_U = the upstream VOC mass emission rate, in lb/hr.
 M_D = the downstream VOC mass emission rate, in lb/hr.

- 404 **CALCULATION FOR DETERMINING OVERALL SYSTEM EFFICIENCY:** To verify compliance with Section 301.2, the overall system efficiency is calculated as follows:

$$\%SE = [\%CLE \times \%CE] / 100$$

Where: SE = system efficiency.
 CLE = collection efficiency, as determined by Section 502.5.
 CE = control efficiency, as determined by Sections 403 and 502.6.

- 405 **OPERATION AND MAINTENANCE PLAN:** Any person using emissions control equipment pursuant to Section 301.2 shall submit an Operation and Maintenance Plan for the emissions control equipment to the Air Pollution Control Officer for approval. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. The Plan shall also specify which daily records must be kept to document these operations and maintenance procedures. These records shall comply with the requirements of Section 501. The Plan shall be implemented upon approval by the Air Pollution Control Officer.

- 406 **PROCEDURE FOR PROCESSING OPERATION AND MAINTENANCE PLAN:**

406.1 **APPROVAL OF PLAN:** The Air Pollution Control Officer shall determine whether the Operation and Maintenance Plan meets the requirements of Section 405 not later than 30 days after receipt of the Plan, or within a longer period of time agreed upon by the parties. The Air Pollution Control Officer shall approve an Operation and Maintenance Plan unless it fails to demonstrate continuous operations of the emissions control equipment during periods of emissions producing operations, according to the standards set forth in Section 301.2, and/or it fails to specify which daily records, in accordance with the requirements of Section 501, are to be kept to document the operation and maintenance procedures set forth in the Plan.

406.2 **REVISION OF PLAN:** If the Air Pollution Control Officer does not approve an Operation and Maintenance Plan, the source shall receive written notice of the deficiency, and shall have an additional 30 days from the date of the notification of the deficiency to correct and resubmit the Operation and Maintenance Plan. The decision of the Air Pollution Control Officer regarding the resubmitted Operation and Maintenance Plan shall be final. Failure to correct the deficiency in an Operation and Maintenance Plan upon resubmittal shall constitute a violation of this rule that is subject to the penalties set forth in Health and Safety Code section 42400 et seq.

500 MONITORING AND RECORDS

- 501 **RECORD KEEPING:** In addition to any applicable record keeping requirements of either Rule 202, NEW SOURCE REVIEW, Rule 207, TITLE V - FEDERAL OPERATING PERMIT PROGRAM, and Rule 209, LIMITING POTENTIAL TO EMIT, or any other District rule which may be applicable, any person subject to this rule shall maintain the following records in order to evaluate compliance:
- 501.1 **LIST OF MATERIALS:** A list shall be maintained of currently used resins, catalysts, filler materials, pigment materials, additives, cleanup materials and other VOC containing materials. The list shall contain all such materials that are currently used and stored on-site and shall include the following information:
- The material type by name/code/manufacturer.
 - For resin materials, the monomer content, as applied, as determined by Section 403.
 - For vapor-suppressed resins, the weight loss per square meter during resin polymerization, as determined pursuant to Section 502.1.
 - For cleaning materials and any other VOC containing materials, the VOC content of the material, as applied, as determined pursuant to Section 502.2.
 - Identification of each material type exceeding the monomer content and vapor suppressant limits specified in Section 301.1a and 301.1b.
- 501.2 **USAGE RECORDS:** Any person within the District using materials regulated by this rule shall update and maintain the records as follows:
- For sources which have total facility VOC emissions greater than 5 tons per year, records shall be maintained on a monthly basis, showing the type and total applied volume of resins, catalysts, filler materials, pigment materials, additives, cleanup materials and other VOC containing materials.
 - For sources which have total facility VOC emissions less than or equal to 5 tons per year, records shall be maintained on an annual basis, showing the type and total applied volume of resins, catalysts, filler materials, pigment materials, additives, cleanup materials and other VOC containing materials.
 - For non-compliant materials, as defined in Section 215, daily records regarding the use, including the lack of use, of each material type by name/code/manufacturer and the total applied volume of each material.
 - For persons using a control system pursuant to Section 301.2, records shall be maintained on a daily basis, showing the type and volume of each material used.
- 501.3 Any person using a control system pursuant to Section 301.2, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the control system during periods of emission-producing activities.
- 501.4 **DURATION OF RECORDS:**
- Prior to September 25, 2010, all records required by this rule shall be maintained on-site for at least three years, and shall be made available to the Air Pollution Control Officer upon request.
 - Effective September 25, 2010, all records required by this rule shall be maintained on-site for at least five years, and shall be made available to the Air Pollution Control Officer upon request.
- 502 **TEST METHODS:** The analysis of polyester resin materials, cleaning materials, and collection/control efficiency shall be conducted using the following testing procedures:
- 502.1 **RESIN VOC WEIGHT LOSS:** "Static Method for Determination of Volatile Emissions from Polyester and Vinyl Ester Resins" (RACT/BARCT Guidance, 1991) shall be used for determining VOC emissions from polyester and vinyl ester resins as received from the manufacturer.

- 502.2 **DETERMINATION OF VOC CONTENT:** VOC content of coatings shall be determined in accordance with EPA Method 24 and Section 401 of this rule as applicable.
- 502.3 **DETERMINATION OF PERCENT MONOMER CONTENT OF RESINS AS APPLIED:** Percent monomer content as applied shall be determined in accordance with Section 402.
- 502.4 **DETERMINATION OF COMPOUNDS EXEMPT FROM VOC DEFINITION:** Compounds exempted from the VOC definition, as listed in Section 210 of this rule, shall be determined in accordance with ASTM D 4457-02 (2008) or ARB Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.
- 502.5 **DETERMINATION OF COLLECTION EFFICIENCY:** Collection efficiency shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:
- a. Applicable U.S. EPA Methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or
 - b. Any other method approved by the U.S.EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 502.6 **DETERMINATION OF CONTROL EFFICIENCY:** Efficiency of control equipment shall be determined in accordance with EPA Method 18, 25, 25A, EPA Method 2 or 2C (whichever is applicable), and Section 403.
- 502.7 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

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RULE 466 - SOLVENT CLEANING

Adopted 5-23-02

(Amended 9-25-08, 10-28-10)

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100 GENERAL

- 101 **PURPOSE:** To reduce the emissions of volatile organic compounds from solvent cleaning operations and activities, and from the storage and disposal of new and spent cleaning solvents.
- 102 **APPLICABILITY:** Except as provided in Section 110, this rule applies to all persons who use VOC-containing materials in solvent cleaning operations during the production, repair, maintenance or servicing of parts, products, tools, machinery, or equipment, or in general work areas, and to all persons who store and dispose of VOC-containing materials used in solvent cleaning. The rule also applies to sellers of VOC-containing materials for use in solvent cleaning operations, and to all persons who use VOC-containing materials for the sterilization of food manufacturing and processing equipment.
- 103 **SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and effect, to the extent allowed by law.
- 110 **EXEMPTIONS:**
- 110.1 The provisions of this rule do not apply to cleaning operations specifically subject to requirements under the following rules:
- a. Rule 444 – PETROLEUM SOLVENT DRY CLEANING;
 - b. Rule 450 – GRAPHIC ARTS OPERATIONS;
 - c. Rule 451 – SURFACE COATING OF MISCELLANEOUS METAL PARTS AND PRODUCTS;
 - d. Rule 452 – CAN COATING;
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 - i. Rule 463 – WOOD PRODUCTS COATING;
 - j. Rule 464 – ORGANIC CHEMICALS MANUFACTURING OPERATIONS; and
 - k. Rule 465 – POLYESTER RESIN OPERATIONS; and.
- 110.2 The provisions of this rule shall not apply to the following:
- a. Prior to September 25, 2009, cleaning using solvents that contain 50 grams per liter or less VOCs as applied including water and exempt compounds. This exemption expires on September 25, 2009;
 - b. Effective September 25, 2009, cleaning using solvents that contain 25 grams per liter or less VOCs as applied including water and exempt compounds;
 - c. Cleaning of solar cells, laser hardware, scientific instruments, high-voltage microwave vacuum tubes, and high-precision optics;
 - d. Cleaning of cotton swabs to remove cottonseed oil before cleaning of high-precision optics;
 - e. Cleaning of paper-based gaskets and clutch assemblies where rubber is bonded to metal by means of an adhesive;
 - f. Cleaning of application equipment used to apply coatings on satellites and radiation effect coatings;
 - g. Prior to September 25, 2009, cleaning of electrostatic coating application equipment. This exemption expires on September 25, 2009; and
 - h. Janitorial cleaning, including graffiti removal.
- 110.3 The provisions of this rule, except for the recordkeeping requirements in Section 501, shall not apply to the following:
- a. Cleaning of sterilization ink indicating equipment provided that the solvent usage is less than 1.5 gallons per day;

- b. Cleaning with aerosol provided that 160 fluid ounces or less of aerosol products are used per day, per stationary source.
 - c. Sanitizing products which are labeled and applied to food-contact surfaces that are used to process dry and low-moisture food products and are not rinsed prior to contact with food.
- 110.4 The provisions of Section 302 shall not apply to the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems.
- 110.5 The provisions of Section 301.1 shall not apply to materials used for the stripping of cured inks, cured coatings, or cured adhesives.

200 DEFINITIONS

- 201 **ADHESIVE:** Any material that is used to bond one surface to another surface by attachment.
- 202 **AEROSOL CLEANING SOLVENT:** A material used as a surface preparation solvent, a cleanup solvent, or as a stripper and consisting of liquid and/or gaseous solvent and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol materials when a valve on the container is depressed.
- 203 **APPLICATION EQUIPMENT:** A device used to apply adhesive, coating, ink, or polyester resin materials.
- 204 **APPURTENANCES:** Accessories to a stationary structure, including, but not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain-gutters and down-spouts, window screens, lamp-posts, heating and air conditioning equipment, other mechanical equipment, large fixed stationary tools and concrete forms.
- 205 **ARCHITECTURAL COATINGS:** Any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs.
- 206 **ARCHITECTURAL COATINGS APPLICATION EQUIPMENT CLEANING:** The cleaning of architectural coating application equipment such as paint spray guns, brushes, and hoses. For purpose of this rule, the cleaning of architectural coating application equipment used for coating of prefabricated architectural components are not subject to the requirements of this rule.
- 207 **CLOSED CONTAINER:** A container which has a nonabsorbent cover where the cover meets with the main body of the container without any visible gaps between the cover and the main body of the container.
- 208 **COATING:** A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains.
- 209 **CURED INK, CURED COATING, OR CURED ADHESIVE:** An ink, coating, or adhesive, which is dry to the touch.
- 210 **DEGREASER:** A tank, tray, drum, or other container in which the objects to be cleaned are exposed to a solvent or solvent vapor in order to remove contaminants.
- 211 **ELECTRICAL APPARATUS COMPONENTS:** An internal component such as wires, windings, stators, rotors, magnets, contacts, relays, energizers, and connections in an apparatus that generates or transmits electrical energy including, but not limited to: alternators, generators, transformers, electric motors, cables, and circuit breakers, except for the actual cabinet in which the components are housed. Electrical components of graphic arts application equipment and hot-line tools are also included in this category.

- 212 **ELECTRONIC COMPONENTS:** The portion of an assembly, including circuit board assemblies, printed wire assemblies, printed circuit boards, soldered joints, ground wires, bus bars, and other electrical fixtures, except for the actual cabinets in which the components are housed.
- 213 **ENCLOSED GUN CLEANER:**
- 213.1 A device that is used for the cleaning of spray guns, cups, pots and hoses, that has an enclosed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or
- 213.2 A device that is used for the cleaning of spray guns, cups, pots and hoses, that has an enclosed solvent container, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the enclosed container.
- 214 **EXEMPT COMPOUND:** For the purposes of this rule, “exempt compound” has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 215 **FOOD PRODUCT MANUFACTURING AND PROCESSING OPERATION:** Any activity or equipment used in the production, formulation, or configuration of any food product. Such manufacturing and processing operations include, but are not limited to distillation, extraction, reacting, blending, drying, crystallizing, granulating, separation, sterilization, and filtering.
- 216 **GENERAL WORK SURFACE:** An area of a medical device or pharmaceutical facility where solvent cleaning is performed on work surfaces including, but not limited to, tables, countertops, and laboratory benches. General work surface shall not include items defined under janitorial cleaning.
- 217 **HIGH PRECISION OPTICS:** An optical element used in an electro-optical device and is designed to sense, detect, or transmit light energy, including specific wavelengths of light energy and changes in light energy levels.
- 218 **HOT-LINE TOOL:** A specialized tool used primarily on the transmission systems, sub-transmission systems and distribution systems for replacing and repairing circuit components or for other types of work with electrically energized circuits.
- 219 **INK:** Any fluid or viscous composition used in printing, impressing, or transferring an image onto a substrate.
- 220 **JANITORIAL CLEANING:** The cleaning of building or facility components including, but not limited to, floors, ceilings, walls, windows, doors, stairs, bathrooms, furnishings, and exterior surfaces of office equipment, and excludes the cleaning of work areas where manufacturing or repair activity is performed.
- 221 **JOBSITE:** The location where architectural coatings are applied to stationary structures or their accessories at the site of installation. Jobsite does not include the application of coatings in or on the premises of a factory or a shop as part of a manufacturing, production, or repairing process.
- 222 **KEY SYSTEM OPERATING PARAMETER:**
- 222.1 A variable that is critical to the operation of an emission control system and that ensures:
- a. Operation of the system within the system manufacturer’s specifications, and
 - b. Compliance with the overall system efficiency standard required by Section 305.
- 222.2 Such variables may include, but are not limited to:
- a. Hours of operation,
 - b. Temperature,

- c. Flow rate, and
 - d. Pressure.
- 223 **LEAK:** A leak is:
223.1 The dripping of liquid volatile organic compounds in excess of three drops per minute; or
223.2 The appearance of a visible mist.
- 224 **LOW-MOISTURE FOOD:** A food with a water activity less than 0.85 or other applicable standards approved by the Air Pollution Control Officer, California Air Resources Board, and U.S. Environmental Protection Agency.
- 225 **MAINTENANCE CLEANING:** A solvent cleaning operation or activity carried out to keep tools, machinery, molds, forms, jigs, or general work areas where manufacturing or repair activity is performed clean and in good operational condition. This definition does not include the cleaning of application equipment for coatings, adhesives, or inks.
- 226 **MANUFACTURING PROCESS:** The process of making goods or articles by hand or by machinery.
- 227 **MEDICAL DEVICE:** An instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent or other similar article, including any component or accessory, that meets one of the following conditions:
227.1 it is intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease; or
227.2 it is intended to affect the structure or any function of the body; or
227.3 it is defined in the National Formulary or the United States Pharmacopoeia, or any supplement to them.
- 228 **NON-ABSORBENT CONTAINER:** A container made of nonporous material, which does not allow the migration of the liquid solvent through it.
- 229 **NON-ATOMIZED SOLVENT FLOW:** The use of a solvent in the form of a liquid stream without atomization to remove uncured adhesives, uncured inks, uncured coatings, and contaminants from an article.
- 230 **NON-COMPLIANT SOLVENT:** A solvent that:
230.1 exceeds the VOC content limits specified in Section 301, and
230.2 is not exempt pursuant to Section 110, and
230.3 is used at a facility that does not use emission control equipment pursuant to Section 304, and
230.4 is used at a facility that does not use an alternative compliance option pursuant to Rule 107, ALTERNATIVE COMPLIANCE.
- 231 **NON-LEAKING CONTAINER:** A container without leak.
- 232 **PHARMACEUTICAL PRODUCT:** A preparation or compound of medicinal drugs including, but not limited to, a prescription drug, analgesic, decongestant, antihistamine, cough suppressant, vitamin, mineral and herb, and is used by humans for consumption to enhance personal health.
- 233 **PLATELET DEVICES:** A very precision photo chemically etched metallic plates that are diffusion bonded (high pressure and heat) to make a monolithic part. The details of these parts can be as small as .00005 inches.
- 234 **POLYESTER RESIN:** Unsaturated polyester resin such as isophthalic, orthophthalic, halogenated, bisphenol-A, vinyl-ester, or furan resin; cross-linking agent; catalyst, gel coat,

inhibitor, accelerator, promoter, and any other VOC-containing material comprising a resin made from polyester. Inert filler and cleaning material are excluded from this definition.

- 235 **PREFABRICATED ARCHITECTURAL COMPONENTS:** Prefabricated metal parts and products which are to be used as architectural appurtenances or structures and which are coated in a shop environment, not including window frames and door frames.
- 236 **PRODUCT CLEANING:** The cleaning of parts or components in a process of making goods or articles by hand or by machinery from those parts or components.
- 237 **RADIATION-EFFECT COATING:** A material that prevents radar detection.
- 238 **REPAIR CLEANING:** A solvent cleaning operation or activity carried out during a repair process or as part of a scheduled maintenance procedure during which the parts are removed.
- 239 **REPAIR PROCESS:** The process of returning a damaged object or an object not operating properly to good condition.
- 240 **SCIENTIFIC INSTRUMENT:** An instrument (including the components, assemblies, and subassemblies used in their manufacture) and associated accessories and reagents that is used for the detection, measurement, analysis, separation, synthesis, or sequencing of various compounds.
- 241 **SOLVENT:** Any liquid containing a volatile organic compound or combination of volatile organic compounds, which is used to perform solvent cleaning.
- 242 **SOLVENT BASED COATING:** A coating designed to be dissolved or suspended in a VOC containing liquid.
- 243 **SOLVENT CLEANING:** The removal of loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants which include, but are not limited to, dirt, soil, and grease from parts, products, tools, machinery, equipment, and general work areas. Each distinct method of cleaning in a cleaning process, which consists of a series of cleaning methods, shall constitute a separate solvent cleaning operation. Effective September 25, 2009, solvent cleaning operations include sterilization of food manufacturing and processing equipment.
- 244 **SOLVENT FLUSHING:** The use of a solvent to remove uncured adhesives, uncured inks, uncured coatings, or contaminants from the internal surfaces and passages of the equipment by flushing solvent through the equipment.
- 245 **STERILIZATION:** A process or operation that removes or prevents the growth of bacteria and other living microorganisms.
- 246 **STERILIZATION INDICATING INK:** Ink that changes color to indicate that sterilization has occurred. Such ink is used to monitor the sterilization of medical instruments, autoclave efficiency, and the thermal processing of foods for prevention of spoilage.
- 247 **STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission.
- 247.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- a. Belong to the same industrial grouping, and
 - b. Are located on one property, or two or more contiguous properties, and
 - c. Are under the same or common ownership, operation, or control, or which are owned or operated by entities which are under common control.

- 247.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- a. They belong to the same two-digit Standard Industrial Classification (SIC) code, or
 - b. They are part of a common production process, which includes industrial processes, manufacturing processes and any connected processes involving a common material.
- 248 **STRIPPING:** The removal of cured inks, cured coatings, or cured adhesives.
- 249 **VOLATILE ORGANIC COMPOUND (VOC):** For the purpose of this rule, "volatile organic compound" has the same meaning as in Rule 101-GENERAL PROVISIONS AND DEFINITIONS.
- 250 **VOLATILE ORGANIC COMPOUND (VOC) AS APPLIED:** A VOC as applied means the VOC content of the cleaning solvent as applied, including any diluters, as calculated pursuant to Section 502.1.
- 251 **WATER ACTIVITY:** a measure of the free moisture in a food and is the quotient of the water vapor pressure of the substance divided by the vapor pressure of pure water at the same temperature.
- 252 **WATER BASED COATING:** A coating designed to be dissolved or suspended in water.
- 253 **WIPE CLEANING:** The method of cleaning a surface by physically rubbing it with a material such as a rag, paper, sponge or a cotton swab moistened with a solvent.

300 STANDARDS**301 VOC STANDARDS:**

301.1 A person shall not perform solvent cleaning unless the solvent has a VOC content, as applied (as determined pursuant to Section 502.1) equal to or less than the applicable VOC limit in the table below. The VOC content shall be calculated based on grams per liter of solvent or pounds per gallon of solvent including water and exempt compounds.

Solvent Cleaning Activity	VOC Content g/l (lb/gal)	
	Prior to 9/25/2009	Effective 9/25/2009
General (wipe cleaning, maintenance cleaning)	50 (0.42)	25 (0.21)
Product Cleaning During Manufacturing Process or Surface Preparation for Coating, Adhesive, Sealants, or Ink Application		
General	50 (0.42)	25 (0.21)
Electrical Apparatus Components and Electronic Components	500 (4.2)	100 (0.83)
Medical Devices and Pharmaceuticals	800 (6.7)	800 (6.7)
Platelets	800 (6.7)	800 (6.7)
Repair and Maintenance Cleaning		
General	50 (0.42)	25 (0.21)
Electrical Apparatus Components and Electronic Components	900 (7.5)	100 (0.83)
Medical Devices and Pharmaceuticals		
General Work Surfaces	600 (5.0)	600 (5.0)
Tools, Equipment, and Machinery	800 (6.7)	800 (6.7)
Platelets	800 (6.7)	800 (6.7)
Architectural Coating Application Equipment		
Water based Coatings		
Enclosed Gun Cleaner	No limit	25 (0.21)
No Enclosed Gun Cleaner	50 (0.42)	25 (0.21)
Solvent based Coatings		
Enclosed Gun Cleaner	No limit	25 (0.21)
No Enclosed Gun Cleaner, cleaning at jobsite	300 (2.5)	25 (0.21)
No Enclosed Gun Cleaner, cleaning not at jobsite	50 (0.42)	25 (0.21)
Sterilization of food manufacturing and processing equipment	No limit	200 (1.68)

302 CLEANING DEVICES AND METHODS REQUIREMENTS: A person shall not perform solvent cleaning unless one of the following cleaning devices or methods is used:

- 302.1 Wipe cleaning;
- 302.2 Cleaning within closed containers or by using hand held spray bottles from which solvents are applied without a propellant-induced force;
- 302.3 Using cleaning equipment which has a solvent container that is closed during cleaning operations, except when depositing and removing objects to be cleaned, and is closed during non-operation with the exception of maintenance and repair to the cleaning equipment itself;
- 302.4 Using a remote reservoir degreaser, non-vapor degreaser, or vapor degreaser used pursuant to the provisions of Rule 454, DEGREASING OPERATIONS; or
- 302.5 Using solvent flushing methods where the cleaning solvent is discharged into a container which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure buildup inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping.
- 302.6 Prior to September 25, 2009, cleaning of spray gun nozzles by soaking in solvent provided the container (not to exceed five (5) gallons in size) is kept tightly covered at all times except when accessing the container.

303 **STORAGE AND DISPOSAL REQUIREMENTS**

- 303.1 All solvents shall be stored in closed containers when not in use. The container shall be:
- Nonleaking, and
 - Nonabsorbent.
- 303.2 All spent solvents shall be disposed of properly. Spent cleanup solvents may be classified as hazardous waste. The owner or operator shall obtain approval from applicable local, state, or federal water pollution control agency prior to disposing of spent solvents into the sewer or storm drain systems.

304 **EMISSIONS CONTROL EQUIPMENT:** As an alternative to complying with Section 301, a person may use air pollution control equipment provided it satisfies all of the following:

- 304.1 The air pollution control equipment is approved by the Air Pollution Control Officer pursuant to Rule 201, General Permit Requirements,
- 304.2 The air pollution control equipment is designed and operated with:
- A control device efficiency of at least 95 percent on a mass basis, as determined pursuant to Sections 402 and 502.3, and
 - An emission collection efficiency of at least 90 percent on a mass basis of the emissions generated by the solvent cleaning operations, as determined pursuant to Section 502.4, or
 - An output of less than 50 parts per million calculated as carbon with no dilution.
- 304.3 Effective September 25, 2009, the air pollution control equipment shall result in VOC emissions per calendar quarter no greater than would have resulted from compliance with Section 301, as calculated by the following equation:

$$\left[1 - \left(\frac{CE}{100} \right) \left(\frac{CL}{100} \right) \right] \sum_{i=1}^n ACT_i(U_i) \leq \sum_{i=1}^n LIM_i(U_i)$$

- Where: CE = Control device efficiency, % by mass
 CL = Collection efficiency, % by mass
 ACT_i = Actual VOC content of material "i," grams per liter
 LIM_i = Applicable VOC limit for material "i" in Section 301, grams per liter
 U_i = Usage of material "i," liters per calendar quarter

400 **ADMINISTRATIVE REQUIREMENTS**

- 401 **CALCULATION FOR DETERMINING VOC CONTENT OF CLEANING SOLVENTS INCLUDING WATER AND EXEMPT COMPOUNDS:** For the VOC content as applied, the volume of solvent is defined as the volume of the original solvent, plus any material added to the original solvent (e.g., thinners or reducers). For the VOC content as supplied, the volume of solvent is defined as the volume of the original solvent. The weight of VOC per total volume of solvent shall be calculated by the following equation:

$$G_2 = \frac{W_v - W_w - W_{ec}}{V_m}$$

- Where: G₂ = Weight of VOC per total volume of solvent, in grams per liter
 W_v = Weight of all volatile compounds, in grams
 W_w = Weight of water, in grams
 W_{ec} = Weight of m compounds, in grams
 V_m = Volume of solvent, in liters

- 402 **CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the VOC mass concentration, collection efficiency, and volumetric flowrate, pursuant to Section 502.3, 502.4, and 502.5 and the following equations:

402.1 **VOC Mass Emission Rate:**

$$M = (Q) * (C) * \left(60 \frac{m}{hr}\right) \text{ (calculated upstream and downstream)}$$

Where: M = VOC mass emission rate (upstream/downstream), in lb/hr.
 Q = the volumetric flowrate at the inlet (upstream) or exhaust stack outlet (downstream), in standard cubic feet per minute as determined by Sections 502.3 and 502.5.
 C = the VOC mass concentration at the inlet (upstream) or outlet (downstream), in pounds per standard cubic feet, as determined pursuant to Section 502.3.

402.2 **The percent control efficiency is calculated as follows:**

$$\%CE = \left(\frac{M_u - M_d}{M_u} \right) * 100$$

Where: CE = control efficiency.
 M_u = the upstream VOC mass emission rate, in lb/hr.
 M_d = the downstream VOC mass emission rate, in lb/hr.

- 403 **OPERATION AND MAINTENANCE PLAN:** Any person using an approved emission control device pursuant to Section 304 must submit an Operation and Maintenance Plan for the emissions control to the Air Pollution Control Officer for approval. This Plan shall specify operation and maintenance procedures that demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. This Plan shall specify key system operating parameters, such as temperatures, pressures, and/or flow rates, necessary to determine compliance with this rule and shall describe in detail procedures to maintain the approved control device. The plan shall specify which records must be kept to document these operations and maintenance procedures. The records shall comply with the requirements of Section 501. This Plan shall be implemented upon approval by the Air Pollution Control Officer.

- 404 **PRODUCT INFORMATION REQUIREMENTS FOR SELLERS:** Any person who sells any solvent subject to this rule shall make available to the purchaser at the time of sale the following information:

404.1 The solvent type by name/code/manufacturer;

404.2 The maximum VOC content of the cleanup solvent as applied. The VOC content shall be displayed as grams of VOC per liter of solvent (or pounds of VOC per gallon), including water and exempt compounds as determined pursuant to Section 502.1.

404.3 Recommendations regarding thinning, reducing, or mixing with any solvent, if applicable.

500 MONITORING AND RECORDS**501 RECORDKEEPING:**

- 501.1 **List of Solvents:** A list shall be maintained of all solvents currently used and/or stored at the site. The list shall include the following information:
- Cleaning solvent type by name/code/manufacturer.
 - The actual VOC content of cleaning solvents listed in Section 301, as applied including water and exempt compounds.
 - The actual mixing ratio for the cleaning solvent as applied.
- 501.2 **Product Information:** The information listed under Section 404 shall be maintained on-site and made available to the Air Pollution Control Officer upon request.
- 501.3 **Usage Records:** Any person within the District using cleaning solvents regulated by this rule shall update and maintain the records as required by this rule as follows:
- Daily:**
 - Records of total applied volume in gallons per day of solvents used for cleaning of sterilization ink indicating equipment.
 - Records of total volume of aerosol products in ounces used.
 - Monthly:**
 - Record of total applied volume in gallons for each cleaning solvent used, and
 - Record of solvent cleaning activity associated with each solvent used.
- 501.4 **Emission Control Equipment:** Any person using an emission control device pursuant to this rule shall maintain records, on a daily basis, of key system operating parameters for emission control equipment, including, but not limited to:
- Hours of operation;
 - Routine and non-routine maintenance; and
 - The records required by Section 403 as part of the Operation and Maintenance Plan.
 - Records of test reports conducted pursuant to Section 502.
- 501.5 **Duration of Records:**
- Prior to September 25, 2010, such records shall be maintained on-site for a continuous three-year period and made available for review by the Air Pollution Control Officer upon request.
 - Effective September 25, 2010, such records shall be maintained on site for a continuous five-year period and made available for review by the Air Pollution Control Officer upon request.

502 TEST METHODS:

- 502.1 **DETERMINATION OF VOC CONTENT:** The VOC content of the cleaning solvent shall be determined in accordance with United States Environmental Protection Agency Method 24 and Section 401 of this rule.
- 502.2 **DETERMINATION OF COMPOUNDS EXEMPT FROM VOC DEFINITION:** Exempt compounds referenced in Section 214 and listed in Rule 101 – General Provisions and Definitions, shall be determined in accordance with ASTM D 4457-02 (2008) or California Air Resources Board Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the United States Environmental Protection Agency -approved test method used to make the determination of these compounds.
- 502.3 **DETERMINATION OF CONTROL EFFICIENCY:** Control efficiency of the emissions control equipment shall be determined in accordance with United States Environmental Protection Agency Method 18, 25, or 25A (whichever is applicable).

- 502.4 **DETERMINATION OF COLLECTION EFFICIENCY:** Collection efficiency shall be determined in accordance with the U.S. EPA technical guideline document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Individual capture efficiency test runs subject to U.S. EPA technical guidelines shall be determined by:
- a. Applicable U.S. EPA Methods 204, 204A, 204B, 204C, 204D, 204E, and/or 204F; or
 - b. Any other method approved by U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 502.5 **DETERMINATION OF VOLUMETRIC FLOWRATE:** Volumetric flowrate shall be determined in accordance with United States Environmental Protection Agency Methods 2, 2A, 2C, or 2D (whichever is applicable).
- 502.6 **DETERMINATION OF WATER ACTIVITY IN FOODS:** Water activity in foods shall be determined in accordance with United States Food and Drug Administration Inspection Technical Guide number 39, Water Activity (aw) in Foods.
- 502.7 **MULTIPLE TEST METHODS:** When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

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RULE 501 AGRICULTURAL BURNING

Adopted 9-13-71

(Amended 1-14-74, 2-5-75, 9-15-75, 6-1-76, 8-3-77, 12-6-78, 7-29-80, 11-29-83)

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100 GENERAL

101 **PURPOSE:** To establish the conditions under which agricultural burning may occur.

200 DEFINITIONS**201 AGRICULTURAL BURNING:**

201.1 Open outdoor fires used in agricultural operations in the growing of crops or raising of fowl or animals, or open outdoor fires used in forest management, range improvement, or the improvement of land for wildlife and game habitat, or disease or pest prevention.

201.2 Open outdoor fires used in the operations or maintenance of a system for the delivery of water for the purposes specified in Section 201.1.

202 **BRUSH TREATED:** The material to be burned has been felled, crushed or uprooted with mechanical equipment, has been desiccated with herbicides, or is dead.

203 **DESIGNATED AGENCY:** Any agency designated by the State Board as having authority to issue agricultural burning permits.

204 **DISTRICT:** The Sacramento County Air Pollution Control District.

205 **NO BURN DAY:** Any day on which agricultural burning is prohibited by the State Board or the District.

206 OPEN BURNING IN AGRICULTURAL OPERATIONS IN THE GROWING OF CROPS OR THE RAISING OF FOWL OR ANIMALS:

206.1 The burning in the open of materials produced wholly from operations in the growing and harvesting of crops or the raising of fowl or animals for the primary purpose of earning all or a significant portion of a person's income or of conducting agricultural research or instruction by an educational institution.

206.2 The following operations qualify under Section 206.1:

a. The open burning of grass and weeds in or adjacent to fields in cultivation or being prepared for cultivation.

b. The opening burning of materials not produced wholly from such operations, but which are intimately related to the growing or harvesting of crops and which are used in the field, except as prohibited by district rules. Examples are trays for drying raisins, pesticide sacks or containers, where the sacks or containers are emptied in the field.

207 **RANGE IMPROVEMENT BURNING:** The use of open fires to remove vegetation for wildlife, game or livestock habitat or for the initial establishment of an agricultural practice on previously uncultivated land.

208 **SILVICULTURE:** The establishment, development, care and reproduction of stands of trees.

209 **STATE BOARD:** The California Air Resources Board or any person authorized to act in its behalf.

300 STANDARDS

301 **AGRICULTURAL BURNING PERMITS:** A person shall not set fires for, or allow burning, for the purpose of disposal of agricultural waste without first having obtained a valid Sacramento County Agricultural Commissioner's authorization to issue permit to burn agricultural waste for the fiscal year in which the person intends to burn and has obtained a valid agricultural burning permit from an agency listed in Section 401 of this rule and conducts such burning under conditions set forth in such permit. Such person, or his

representative, shall have the permit available for inspection at the burn site during the burning operation.

- 302 **PERMIT FORM:** Permits issued pursuant to Section 301 above shall contain the following conditions and information:
- 302.1 Name, address and telephone number of the permittee
 - 302.2 Location of the proposed burning
 - 302.3 Acreage (for field crops) or estimated tonnage of material to be burned
 - 302.4 Nature of the waste to be burned
 - 302.5 Such limitations as to hours or burning and acreage to be burned per day as specified in Sections 330 and 331 of this rule.
 - 302.6 The statement "this permit shall be valid only on those days in which burning in Sacramento County is not prohibited by the California Air Resources Board, except as authorized by the Air Pollution Control Officer".
 - 302.7 Such other conditions and information as may be required by the agency issuing this permit and these rules.
- 303 **SPECIAL PERMITS:** The Air Pollution Control Officer, by special permit may authorize agricultural burning on days designated by the board as no burn days because the denial of such a permit would threaten imminent and substantial economic loss. In authorizing such burning the district will limit the amount of acreage which can be burned in any one day and only authorize such burning when downwind urban areas are forecasted by the State Board to achieve the ambient air quality standards.
- 303.1 Every applicant for a permit to burn agricultural waste pursuant to this section shall provide the following information in writing to the Air Pollution Control Officer for evaluation.
 - a. A statement showing why the denial of such a permit would threaten imminent and substantial economic loss.
 - b. A statement of the specific cultural practices that require immediate burning.
 - 303.2 The Air Pollution Control Officer may authorize Agricultural Burning on a Burn Day when predicted winds are within 90 degrees of true north, in an area where such burning is otherwise precluded by this rule, when, in his opinion, such burning is necessary to preclude hazards on public thoroughfares or airports due to smoke, or in the opinion of the Air Pollution Control Officer, such burning can be performed without impacting populated areas.
- 310 **NO BURN DAYS:** Except as authorized in Sections 303 or 315 a person shall not set a fire or allow agricultural burning on no-burn days.
- 315 **PESTICIDE OR TOXIC SUBSTANCE CONTAINERS:** The burning of empty pesticide sacks or containers or containers of other toxic substances used in conjunction with agricultural operations may be burned on no burn days provided said burning is conducted at the site of application and downwind from any susceptible crops or persons.
- 320 **PREPARATION OF AGRICULTURAL WASTE:** A person shall not set fires or allow the burning of agricultural waste unless such waste is prepared in the following manner:
- 320.1 Free of material other than agricultural vegetation, refuse or other unwanted agricultural plant material growing or produced on the premises on which such burning is taking place.
 - 320.2 Reasonably free of soil and visible surface moisture.
 - 320.3 For rice crop residue:
 - a. All rice harvesting shall employ a mechanical spreader to ensure an even distribution of the straw with the following exceptions:
 - 1) Rice straw may be left in rows provided it meets drying criteria prior to a burn as described in Subsection b. below.

- b. Require that after harvest:
 - 1) No spread rice straw shall be burned prior to a three day drying period.
 - 2) No rowed rice shall be burned prior to a ten day drying period.
 - 3) Subsection b.1 and b.2 do not apply if the rice straw makes an audible crackle when tested just prior to burning with the testing method described in Subsection b.4 below.
 - 4) When checking the field for moisture, a composite sample of straw from under the mat in the center of the mat and from different areas of the field shall be taken to ensure a representative sample. Rice straw is dry enough to burn if a handful of straw selected as described above crackles when it is bent sharply.
 - 5) After a rain exceeding 0.15 inch, notwithstanding a.1 and a.2 above, rice straw shall not be burned unless the straw makes an audible crackle when tested just prior to burning with the test method described in Subsection a.4.
- 320.4 Minimum Drying period: Except as otherwise authorized by the Air Pollution Control Officer no person shall knowingly set or allow an open outdoor fire to burn agricultural waste pursuant to these rules that have not been dried for the minimum periods between cutting, harvesting, or removal and burning set forth as follows:
 - a. A minimum of 30 days for tree stumps and large branches greater than six inches in diameter.
 - b. Allowed to dry for a period of time sufficient to provide effective combustion for any collection of prunings, small branches and other field crop residue.
- 320.5 Physically arranged so that it will burn with a minimum of pollutants.
- 330 **LIMITATION ON DAILY BURNING RATE:** The Air Pollution Control Officer shall ensure that no more than 1600 hectares (3954 acres) of field crop residue and 9000 metric tons (9918 tons) of other agricultural waste will be burned in any one day except as provided in Section 330.1 of this rule.
 - 330.1 During the period between October 1 through November 15 maximum acreage that may be burned in any day will be limited to an aggregate of particulate emissions not to exceed 21 tons for Sacramento County. Particulate emission factors for principal crops are listed at the end of this regulation. Particulate emission factors are subject to change by order of the Executive Officer of the California Air Resources Board.
 - 330.2 Exceptions to the daily burning rate described in section 330 of this rule may be made by the Air Pollution Control Officer as authorized by the agricultural burning emission allocation plan adopted for the Sacramento Valley Air Basin by the Basin Control Council on each succeeding year pursuant to Section 80150 e.1 California Administrative Code (Agricultural burning guidelines).
- 331 **OTHER BURNING LIMITATIONS**
 - 331.1 A person shall not set a fire for the purpose of burning agricultural waste earlier than 10:00 AM or after 5:00 PM on any day.
 - 331.2 All field crops shall be ignited only by stripfiring into the wind or by backfiring except under a special permit of the district or designated agency authorized by this rule to issue agricultural burning permits when and where extreme fire hazards are declared by a public fire protection agency to exist or where crops are determined by the Air Pollution Control Officer not to lend themselves to these techniques.
 - 331.3 All agricultural waste burning shall be ignited with ignition devices approved by the Air Pollution Control Officer.
 - 331.4 No field crop acreage which was harvested prior to September 10 shall be burned during the period October 1 through November 15 of each year unless

written authority is given by the District. In granting such authority the District shall:

- a. Ensure that the amount of acreage which is to be burned shall be included in the District's allotment specified in section 330 of this rule.
 - b. Require a specific explanation in writing of the cultural practices which require immediate burning.
 - c. Require the person to specify in writing why the burning was not conducted prior to October 1.
 - d. Require the exception to be valid only on permissive burn days.
- 331.5 A person shall not, except as provided in Subsection 303.2, set a fire for the purpose of the disposal of agricultural waste within the following described area when the predicted winds as determined by the Air Pollution Control Officer or, alternately by the affected fire protection districts, in the morning for the entire day, are from any direction within 90 degrees of true north, to wit: commencing at a point where the Sacramento and American Rivers merge; then north along the Sacramento River to the point where the river intersects the Sacramento-Sutter County borderline; then east along said Sacramento-Sutter County borderline to a point where said line intersects the main railroad line of the Western Pacific Railroad, which line runs north from the City of Sacramento to Sutter County; then south along said railroad line to a point where intersection is made with the city limits of the City of Sacramento; then easterly and southerly along such city limits to their intersection with the American River; then west along the American River to the point of beginning.
- 331.6 Range improvement burning shall be allowed as follows:
- a. Burning shall be done on those days declared as burn days by the State Board unless otherwise authorized by the Air Pollution Control Officer.
 - b. The Air Pollution Control Officer may designate a period between January 1 and May 31 during which time range improvement burning may be conducted by permit on a no-burn day provided that more than 50% of the land has been brush treated. If the burn is done primarily for the improvement of land for wildlife habitat the permittee shall file with the district a statement from the Department of Fish and Game certifying that the burn is desirable and proper.
 - c. Fires will be ignited with approved ignition devices only.
 - d. The Air Pollution Control Officer may prohibit such burning when the wind direction is toward nearby populated areas.
 - e. The Air Pollution Control Officer shall determine the total amount of such waste that may be burned each day. Such determinations shall include but is not limited to consideration of general air quality.
 - f. All unwanted trees over six (6) inches in diameter shall be felled and allowed to dry at least 30 days prior to the burn.
 - g. The Department of Fish and Game may specify the amount of brush treatment required provided the burn is for wildlife habitat improvement.
 - h. The permittee shall, prior to burning, establish from the Air Pollution Control Officer that the day's quota will allow the open burning of the proposed acreage of range and shall receive verbal authorization from the Air Pollution Control Officer for the proposed burn.
 - i. Authorization for such range burning on quota days shall be on a first come, first serve basis.
 - j. Range improvement burns shall be ignited as rapidly as practical with applicable fire control restrictions.

340 **AGRICULTURAL WATERWAY DELIVERY AND DRAINAGE SYSTEMS:** This Section shall not apply to privately owned water delivery or drainage ditches which are subject to Section 320. Open outdoor fires utilized to maintain levees or drainage ditches delivering water to or from agricultural operations are considered to be agricultural burning except as further restricted below:

- 340.1 Any open fire burning on levees shall not be conducted between October 1 and November 15 inclusive, except that the Air Pollution Control Officer may authorize an exception during that time when necessary to preclude a hazardous condition.
- 340.2 Each reclamation or levee maintenance district shall obtain an agricultural burn permit from the appropriate fire protection agency for the locations of any burn, and such fire protection agency will be notified prior to burning.
- 340.3 For purposes of this rule, the American River is not considered a system for the delivery of water for agricultural use. This exemption is made in consideration of the development of the American River Parkway and use of the river and adjacent areas by the general public as a recreational facility.
- 340.4 For purposes of this rule, water delivery systems within the geographical limits of the City of Sacramento are not considered systems for the delivery of water for agricultural use. This exemption is made in consideration of the density of population within the geographical area of the City of Sacramento and potential fire hazards and smoke nuisance that may result from agricultural burning.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **ISSUANCE OF AGRICULTURAL BURNING PERMITS:** Any public fire protection agency having an area of jurisdiction within the County of Sacramento is authorized to issue agricultural burning permits within the County of Sacramento pursuant to Section 301 of this rule. A permit may be issued by the Air Pollution Control Officer or any person authorized to act ex-officio for the Air Pollution Control Officer subject to restrictions of the fire protection district in which such burning would occur.

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RULE 701 EMERGENCY EPISODE PLAN
Adopted 5-6-74
(Amended 9-15-75, 8-3-77, 12-6-78, 5-25-93, 9-5-96, 5-27-99)

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100 **GENERAL**

101 **PURPOSE:** To reduce air pollutants which may reach or have reached levels harmful to health, and to protect the population at risk. This rule establishes control and advisory procedures when specified pollutant levels have been reached, or are predicted to be reached by the Air Pollution Control Officer.

102 **APPLICABILITY: STATIONARY AND MOBILE SOURCE EMERGENCY EPISODE ABATEMENT PLANS:** This rule shall apply to all stationary sources, or combination of stationary and mobile sources, which emit (based on actual emissions for the previous calendar year) 50 tons or more per year of volatile organic compounds, or 50 tons or more per year of oxides of nitrogen, or 100 tons or more per year of carbon monoxide, or 100 tons or more per year of PM10.

200 **DEFINITIONS**

201 **AFFECTED POLLUTANTS:** Volatile organic compounds (VOC), nitrogen oxides (NOx), sulfur oxides (SOx), PM10, carbon monoxide (CO), lead, vinyl chloride, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, and reduced sulfur compounds.

202 **EMISSIONS UNIT:** An identifiable operation or permitted piece of process equipment such as an article, machine, or other contrivance which controls, emits, may emit, or results in the emissions of any affected pollutant directly or as fugitive emissions.

203 **EPISODE ACTION COORDINATOR:** A person or persons employed by a stationary source, or a combination of stationary and mobile sources, assigned the responsibility for preparation and/or implementation of an episode abatement plan.

204 **EPISODE AIR POLLUTANT:** Carbon monoxide, ozone, and PM10.

205 **MOBILE SOURCE:** A motor vehicle, machine, or other contrivance which controls, emits, may emit, or results in the emissions of any affected pollutant, and is capable of moving or being moved from one place to another, under its own power.

206 **PM10:** Particulate matter with an aerodynamic diameter smaller than or equal to a nominal 10 microns as measured by an applicable reference test method or methods found in Article 2, Subchapter 6, Title 17, California Code of Regulations (commencing with Section 94100).

207 **STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission.

207.1(a) Building, structure, facility, or emissions unit includes all pollutant emitting activities which:

- 1) belong to the same industrial grouping, and
- 2) are located on one property or two or more contiguous properties, and
- 3) are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.

207.1(b) Pollutant emitting activities shall be considered as part of the same industrial grouping if:

- 1) they belong to the same two-digit standard industrial classification code, or
- 2) they are part of a common production process. (Common production process includes industrial processes, manufacturing processes, and any connected processes involving a common material.)

- 208 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.

300 **STANDARDS**

301 **EMERGENCY EPISODE ABATEMENT PLAN REQUIREMENTS AND APPROVAL:**

- 301.1 The operator of a stationary source, or a combination of stationary and mobile sources, subject to this rule shall file an emergency episode abatement plan for approval by the Air Pollution Control Officer within 45 days of May 25, 1993. The operator of a stationary source, or a combination of stationary and mobile sources that becomes subject to this rule after May 25, 1993 shall file an emergency episode abatement plan for approval by the Air Pollution Control Officer within 45 days of becoming subject to this rule. Whenever a new permit to operate is approved by the District, and whenever a modification to an existing permit to operate is approved, pursuant to Rule 202 - NEW SOURCE REVIEW, the Air Pollution Control Officer may require the operator to file an addendum to the approved plan.
- 301.2 The Air Pollution Control Officer will review emergency episode abatement plans and approve only such plans that the Air Pollution Control Officer determines will effectively reduce affected air pollutant emission levels during a declared stage 1, 2 or 3 episode. The plans shall include, but not be limited to, facility and abatement action information indicated in Sections 301.3 and 301.4.
- 301.3 Facility Information :
- a. Name and location of the facility.
 - b. Number of Employees.
 - c. Employee vehicles:
 - 1) Number.
 - 2) Total average daily commute mileage.
 - d. Fleet vehicles:
 - 1) Number of vehicles and type of fuel used in each vehicle.
 - 2) Total average daily mileage of each type.
 - e. Stationary source:
 - 1) Type of equipment that emits air pollutants and number of units of each type.
 - 2) Total potential emissions of each affected pollutant in pounds per operating day from each type of equipment including any significant variations occurring seasonally or differences in emissions on weekends and holidays. If available, this data may be supplied from District records.
 - f. Procedures for briefing employees regarding the abatement plan requirements.
 - g. Procedures for notifying employees and individuals responsible for emissions curtailment action to be taken.
 - h. Where applicable, a procedure for limiting strenuous activities by students.
 - i. The job titles and telephone numbers of the episode action coordinator and alternate.
 - j. The job title and telephone number of the official responsible for implementation of the plan.
 - k. Other information as required by the Air Pollution Control Officer.
- 301.4 Abatement Actions.
- a. Direct emissions
 - 1) Identification of equipment for which emissions are to be curtailed at each episode stage and expected reduction of emissions of each pollutant in pounds per operating day.
 - 2) Time required to accomplish the emissions curtailment at each episode stage.

- 3) Reduction in fuel oil, natural gas and electrical consumption expected at each episode stage.
 - b. Indirect emissions
 - 1) Measures to be implemented at each episode stage to reduce public travel to the facility.
 - 2) An estimate of the reduction in vehicle trips to the facility at each episode stage.
 - 3) Procedure for encouraging voluntary carpools at each episode stage.
 - 4) Measures to be implemented at each episode stage to reduce employee use of company owned or fleet vehicles.
- 302 **ABATEMENT REPORTS:** The operator or episode action coordinator shall prepare and submit a report of the abatement plan's effectiveness when implemented in response to a stage 1, stage 2 or stage 3 episode, within 60 days of a request by the Air Pollution Control Officer. Such report shall include the following information, as applicable:
- a. An estimate of the reduction in vehicle trips, and the basis for the estimate.
 - b. An estimate of the stationary source affected pollutant emission reductions, expressed in pounds per day, and the basis for the estimate.
 - c. Identification of problems encountered in implementing the abatement plan.
 - d. Comments on the effectiveness of the abatement plan actions implemented.
 - e. Recommendations for improved effectiveness.
- 303 **DISAPPROVAL OF EMERGENCY EPISODE ABATEMENT PLANS:** In the event of disapproval of an emergency episode abatement plan, the Air Pollution Control Officer shall notify the operator in writing of the reasons for denial. The operator shall submit a revised plan within 30 days from the date of notification, incorporating the changes required by the Air Pollution Control Officer. A revised plan shall not be approved until the Air Pollution Control Officer determines that the issues which resulted in denial have been addressed. Service of notification shall be made in person or by mail, and such service may be proved by the written acknowledgment of the person(s) served or affidavit of the person making the service. Any person aggrieved by a decision of the Air Pollution Control Officer may appeal the decision to the Hearing Board pursuant to the provisions of RULE 601 - PROCEDURE BEFORE THE HEARING BOARD.
- 304 **EMERGENCY EPISODE ABATEMENT PLAN IMPLEMENTATION:** Upon declaration by the Air Pollution Control Officer that a stage 1, 2, or 3 episode is in effect, the operator or episode action coordinator shall implement the approved emergency episode abatement plan for the declared stage.
- 305 **EMERGENCY EPISODE DECLARATION:** Whenever the concentration of an episode air pollutant reaches, or is predicted to reach, a health advisory or a stage 1, 2 or 3, episode as specified in Table 1, at any location within the District, the Air Pollution Control Officer shall declare that such episode advisory or stage is in effect in the District.
- 306 **NOTIFICATION OF AN EMERGENCY EPISODE STAGE:** When any episode stage is declared, the Air Pollution Control Officer shall notify the following officials or officers:
- 306.1 The California Air Resources Board.
 - 306.2 The Sacramento County Executive and chief executive officers of the incorporated cities within the District, police chiefs, fire chiefs and any other public safety officers as deemed appropriate by the Air Pollution Control Officer;
 - 306.3 All air pollution control districts within the Sacramento Valley Air Basin;
 - 306.4 The Sacramento County Superintendent of Schools, and the superintendents of all school districts within the District;
 - 306.5 The Sacramento County Health Officer who shall be advised to notify the Sacramento County Medical Society;

- 306.6 Major newspapers of daily circulation published in the District, and all television and radio stations broadcasting from within the District which shall be requested to publish or broadcast all appropriate warnings, notices, and advisories specified in Section 308 as public service announcements.
- 306.7 Staff of the District responsible for implementing and/or enforcing the provisions of this rule;
- 306.8 Episode action coordinators of stationary or a combination of stationary and mobile sources responsible for implementation of emergency episode abatement plans.
- 307 **CONTENT OF NOTIFICATION:** Notification of an episode stage shall include information as to which episode has been predicted or reached, the expected duration of the episode, the estimated geographic boundaries of the affected area, the specific episode air pollutant for which the episode has been declared, a statement of the public health significance of the episode, and the appropriate voluntary or mandatory control actions to be taken, as described in Section 308.
- 308 **EMERGENCY EPISODE ACTIONS:** When an episode stage is declared to be in effect, the Air Pollution Control Officer shall implement the following control actions:
- 308.1 Health Advisory Episode:
- a. Notify those persons and agencies specified in Section 306 that a health advisory has been declared.
 - b. For ozone episodes, advise the Sacramento County Superintendent of Schools that sustained strenuous activities by students lasting longer than one hour should be discontinued.
 - c. Request the news media to convey appropriate warnings to the public and to request the public to curtail unnecessary motor vehicle operation and waste burning.
- 308.2 Stage 1 Episode:
- a. Notify those persons and agencies specified in Section 306 that a stage 1 episode has been declared;
 - b. Initiate actions specified in approved episode abatement plans;
 - c. Request the news media to convey appropriate warnings to the public and request the public to curtail unnecessary motor vehicle operation and waste burning;
 - d. Initiate inspection of stationary sources or a combination of stationary and mobile sources subject to Section 102 of this rule to ensure source compliance with episode abatement plans;
 - e. Prohibit outdoor agricultural burning, except in emergency situations as provided for in Section 41862 of the California Health and Safety Code.
- 308.3 Stage 2 Episode: In addition to the requirements specified in Section 308.2:
- a. Request that within the scope of their authority, officials notified pursuant to Section 306 do the following:
 - 1) Prohibit all burning of refuse, including agricultural waste, within their jurisdiction;
 - 2) Close all non-essential facilities of public agencies, except emergency facilities and those facilities necessary in emergencies to protect the national security or national defense;
 - b. Advise stationary sources subject to Section 102 to prepare for possible shutdown in accordance with their approved episode abatement plans;
 - c. Request employers of facilities which have closed due to the episode control measures to request employees to refrain from using their vehicles until the episode is terminated;
 - d. Notify the California Air Resources Board at each third increment of the concentration difference between stage 2 and stage 3 episodes; and with the concurrence of the California Air Resources Board, request the Sacramento County Executive to request the Sacramento County Office of Emergency Services and the California Office of Emergency Services to

- coordinate emergency control measures pursuant to the California Emergency Services Act.
- e. Request suspension of all athletic events at parks or recreational facilities open to the public. Such programs which are for adult participants in scheduled athletic events with paid attendance are exempted.
 - f. Request the news media to convey appropriate health warnings to the public and request the public to curtail unnecessary motor vehicle operation.
 - h. Cooperate with the California Office of Emergency Services in the control of the episode.
- 308.4 Stage 3 Episode: In addition to the requirements specified in Section 308.2 and 308.3 above:
- a. Request that within the scope of their authority, the officials notified pursuant to Section 306 do the following:
 - 1) Close all private and public commercial agencies and industrial establishments which are not immediately necessary for the public health and safety, national security or national defense;
 - 2) Close principal streets, as deemed necessary by the Air Pollution Control Officer or local law enforcement agencies, in order to protect the health and welfare of the general public;
 - b. Require implementation of emergency carpooling or the use of mass transportation as indicated in approved emergency episode plans;
 - c. Request the news media to convey appropriate health warnings to the public and to request that the public use only mass transit for transportation.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **AIR POLLUTION DISASTER:** When it is determined by medical authorities or local officials that a substantial number of persons are suffering or are likely to suffer incapacitating effects from air pollution, regardless of measured air pollutant concentrations, and analysis of meteorological and air quality data by the California Air Resources Board or the District indicates that the condition is likely to continue, or recur, the Air Pollution Control Officer may request the Chairperson of the California Air Resources Board to confer with the director of the California Office of Emergency Services and jointly they may recommend to the Governor that an air pollution disaster (State of Emergency) be declared.
- 402 **TERMINATION OF AN EPISODE STAGE:** The Air Pollution Control Officer shall declare an episode stage as terminated when the concentration of a episode air pollutant falls below the level shown in Table 1 of this rule, and when meteorological data indicate the episode air pollutant concentration is expected to decrease to a lower pollutant threshold level.
- 403 **NOTIFICATION OF TERMINATION OF AN EPISODE STAGE:** Upon declaration of termination of an episode stage, the Air Pollution Control Officer shall notify those persons and offices specified in Section 306 of this rule. Such notice shall also advise which episode stage is in effect, if any, as specified in Section 308 herein.
- 404 **INTERDISTRICT COORDINATION:** Should the Air Pollution Control Officer of a district adjacent to the Sacramento District declare a stage 1, 2 or 3 episode within that district and request assistance, the Air Pollution Control Officer of the Sacramento Metropolitan Air Quality Management District may take action to:
- 404.1 Make a determination as to the significance of sources within the District upon the adjacent district, or the impact of the significance of sources within the adjacent district upon the District. After such determination and the need for action is confirmed, the Air Pollution Control Officer may implement such notification and

control measures as described in this rule, as if such episode level has been measured within the District;

- 404.2 Notify the requesting adjacent air pollution control district of the actions being taken to reduce pollutants affecting the declared stage.

500 MONITORING AND RECORDS

- 501 **TEST METHODS:** The concentration of an air pollutant is measured by ambient air monitoring. The level of ozone is measured by ARB Method 14, the level of carbon monoxide is measured by ARB Method 11, and the level of PM10 is measured by ARB Method 59.

TABLE 1 - EPISODE CRITERIA

EPISODE AIR POLLUTANT CONCENTRATION LEVELS

	Averaging Time	Health Advisory Episode	Stage 1 Episode	Stage 2 Episode	Stage 3 Episode
Ozone	1 Hour	0.15 ppm	0.20 ppm	0.35 ppm	0.50 ppm
Carbon Monoxide	1 Hour	*	40 ppm	75 ppm	100 ppm**
	4 Hours	*	25 ppm	45 ppm	60 ppm
	8 Hours	*	15 ppm	30 ppm	40 ppm
PM10	24 Hours		350 µg/m ³	420 µg/m ³	500 µg/m ³

* Health Advisory for this pollutant is issued at the Stage 1 Level.

** For one hour, and predicted to persist for one additional hour.

ppm means parts of pollutant per million parts of air, by volume.

µg/m³ means micrograms of pollutants per cubic meter of air at standard conditions.