

**AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO**

**DRAFT PROPOSED AMENDMENTS TO
RULE 67.6.1 – COLD SOLVENT CLEANING AND STRIPPING OPERATIONS,
AND TO
RULE 67.6.2 – VAPOR DEGREASING OPERATIONS**

WORKSHOP REPORT

On November 28, 2018, the San Diego County Air Pollution Control District (District) conducted a public workshop to present and receive comments on draft proposed amendments to Rule 11 – Exemptions from Rule 10 Permit Requirements, and related amendments to Rule 67.6.1 – Cold Solvent Cleaning and Stripping Operations, and Rule 67.6.2 – Vapor Degreasing Operations. The original amendments consisted of exempting degreasers with low or no volatile organic compound (VOC) emissions from permit and rule requirements.

The U.S. Environmental Protection Agency (EPA) provided numerous comments on the draft proposed amendments to Rules 67.6.1 and 67.6.2. Due to the nature of these comments and the December 2018 shutdown of the EPA, the effort to update Rules 67.6.1 and 67.6.2 was temporarily suspended. Nevertheless, the proposed amendments to Rule 11 moved forward and were adopted by the Air Pollution Control Board on October 30, 2019.

The District has since held discussions with EPA staff to better understand their comments and now proposes to move forward with the proposed amendments to Rules 67.6.1 and 67.6.2 to make the rules consistent with related provisions in Rule 11, and to address minor deficiencies identified by the EPA that require correction to assure federal approval of the rules.

A summary of the EPA comments and the District responses to these comments are as follows:

EPA COMMENTS FOR RULE 67.6.1

1. EPA COMMENT

The District should remove the reference to 40 CFR Part 63, Subpart T, National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning in existing Subsection (b)(1)(ii).

DISTRICT RESPONSE

The District agrees. The exemption in existing Subsection (b)(1)(ii) referencing Subpart T, National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning has been removed as suggested.

2. EPA COMMENT

The District should revise Subsection (a)(2) to expand the applicability of the rule to the cleaning of application equipment.

DISTRICT RESPONSE

The District disagrees. The cleaning of application equipment is already regulated under each District source-specific rule or Rule 66.1 – Miscellaneous Surface Coating Operations and Other Processes Emitting Volatile Organic Compounds.

3. EPA COMMENT

The District should amend Subsection (a)(5), to clarify that operations subject to or exempt from Rule 67.6.1 are not subject to Rule 66.1 – Miscellaneous Surface Coating Operations and Other Processes Emitting Volatile Organic Compounds.

DISTRICT RESPONSE

The District agrees. Subsection (a)(5) has been revised as suggested.

4. EPA COMMENT

The District should clarify what is meant by “educational purposes” or “educational institution” in existing Subsection (b)(1)(v).

DISTRICT RESPONSE

At this time, the District is pursuing only those changes related to approvability issues or to incorporate minor language clarifications recommended by EPA. The District will perform a more thorough review and consideration of this recommendation during future amendments of Rule 67.6.1.

5. EPA COMMENT

The District should revise existing Subsection (b)(1)(vi) to only exempt materials with a VOC content of less than 25 grams per liter (g/l) (0.21 lbs/gal) as used. The current language seems to be in conflict with the language in Subsection (d)(1).

DISTRICT RESPONSE

The District disagrees. The proposed rule would exempt the use of solvent cleaning materials with a VOC content of 25 g/l or less. Subsection (d)(1) prohibits (unless otherwise noted) the use of solvent cleaning materials with a VOC content exceeding 25 g/l. There is no conflicting language and these provisions are consistent with the analogous rules of other California air districts.

6. EPA COMMENT

The District should add a definition for “VOC content per volume of material.”

DISTRICT RESPONSE

The District agrees. The definition for “VOC Content Per Volume of Material” was added to Section (c) Definitions as suggested.

7. EPA COMMENT

The District should revise Subsection (d)(3)(i)(A) to have a freeboard ratio greater than or equal to 0.7 as per the 1977 Control Techniques Guidelines (CTG) on Solvent Metal Cleaning recommendation of a freeboard ratio for cold cleaners of ≥ 0.7 (for highly volatile solvents >33 mm or 0.6 psi at 100F or if the solvent is heated about 120F 1977 CTG Table 1 pg v).

DISTRICT RESPONSE

At this time, the District is focused on only making changes related to approvability issues or to minor language clarifications recommended by EPA. The District will perform a more thorough review and consideration of this recommendation during future rule amendments to Rule 67.6.1.

8. EPA COMMENT

The District should modify Subsections (d)(4)(xii), and (d)(6)(x), to incorporate the latest changes to the California Health & Safety Code for waste solvent and contaminated residue disposal/recycling.

DISTRICT RESPONSE

The District agrees. Subsections (d)(4)(xii) and (d)(6)(x) have been revised to reflect the most current California Health & Safety Code reference as suggested.

9. EPA COMMENT

The District should revise Subsection (e)(1)(ii) to include instructions on what to do with contaminated cloths, rags, etc., used to clean up a spill.

DISTRICT RESPONSE

The District disagrees. All operations, including the use of cloths and rags used to clean up a spill, are subject to District Rule 67.17 – Storage of Materials Containing Volatile Organic Compounds. Rule 67.17 is referenced in the Permit to Operate for each individual degreaser.

EPA COMMENTS FOR RULE 67.6.2

1. EPA COMMENT

The District should revise existing Subsection (b)(1)(i) to only exempt materials with a VOC content of less than 25 grams per liter (g/l) (0.21 lbs/gal) as used.

DISTRICT RESPONSE

The District disagrees. The language is consistent with language in Rule 67.6.1 – Cold Solvent Cleaning and Stripping Operations and Rule 11 – Exemptions from Rule 10 Permit Requirements.

2. EPA COMMENT

The District should add a definition for “VOC content per volume of material.”

DISTRICT RESPONSE

The District agrees. The definition for “VOC Content Per Volume of Material” was added to Section (c) Definitions as suggested.

3. EPA COMMENT

The District should modify the Standards Subsection (d)(4)(xiii) to incorporate the latest changes to the California Health & Safety Code for waste solvent and contaminated residue disposal/recycling.

DISTRICT RESPONSE

The District agrees. Subsection (d)(4)(xiii) has been revised to reflect the most current California Health & Safety Code reference as suggested.

4. **EPA COMMENT**

The District should revise Subsection (e)(1)(ii) to include instructions on what to do with contaminated cloths, rags, etc., used to clean up a spill.

DISTRICT RESPONSE

The District disagrees. All operations, including the use of cloths and rags used to clean up a spill, are subject to District Rule 67.17 – Storage of Materials Containing Volatile Organic Compounds. Rule 67.17 is referenced in the Permit to Operate for each individual degreaser.

JH:AMF:jlm
10/28/20

RULE 67.6.1 COLD SOLVENT CLEANING AND STRIPPING OPERATIONS
(Adopted & Effective 5/23/07; Rev. Adopted & Effective *(date of adoption)*)

(a) APPLICABILITY

(1) Except as provided in Section (b), this rule is applicable to all cold solvent cleaning and all stripping operations.

(2) Any cleaning of application equipment is not subject to this rule.

(3) Any dry cleaning operation subject to or exempt from the *Airborne Toxic Control Measure for Emissions of Perchloroethylene from Dry Cleaning Operations* or subject to or exempt from Rule 67.2 – Dry Cleaning Equipment Using Petroleum Based Solvents is not subject to this rule.

(4) Wipe cleaning operations are not subject to this rule.

(5) Any cold solvent cleaning or stripping operation subject to or exempt from this rule is not subject to Rule 66.1 – (Miscellaneous Surface Coating Operations and Other Processes Emitting Volatile Organic Compounds) ~~shall not apply to any cold solvent cleaning or stripping operation.~~

(b) EXEMPTIONS

(1) This rule shall not apply to the following:

(i) Non-immersion stripping operations subject to or exempt from Rules 67.9 - Aerospace Coating Operations, or 67.11 - Wood Products Coating Operations, or 67.11.1.

~~(ii) Solvent cleaning operations regulated by the 40 CFR Part 63, Subpart T National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning, 40 CFR Part 63, Subpart T.~~

~~(iii)~~ (ii) Cold solvent cleaning or stripping operations conducted in any cold solvent tank or stripping tank with a liquid surface area of one square foot (0.09 square meters) or less, or with a capacity of one gallon (3.8 liters) or less.

~~(iv)~~ (iii) Cold solvent cleaning operation conducted in any remote reservoir with a capacity of 1 gallon (3.8 liters) or less.

~~(v)~~ (iv) Cold solvent degreasers used exclusively for educational purposes. This exemption does not apply to degreasers used for other purposes at an educational institution.

~~(vi)~~ Except for requirements for waste solvent disposal in Subsections ~~(d)(4)(xii) or (d)(6)(x)~~, as applicable, Cold solvent cleaning or stripping operations that exclusively utilize water-based materials with a volatile organic compound (VOC) content of 50-25 grams per liter (g/l) of material (0.42 pounds per gallon-0.21 lbs/gal) of material or less, as used.

It shall be the responsibility of any person conducting such operations to keep a current list of all cleaning materials and the VOC content of each material, as applied-used, to substantiate this exemption.

(2) Subsection (d)(1) shall not apply to cold solvent cleaning of electronic components, electrical components, medical devices, aerospace components, or precision optics components.

(c) **DEFINITIONS**

(1) **"Aerospace Component"** means any raw material, partial or completed fabricated part, assembly of parts, or completed unit of any aircraft, helicopter, missile, or space vehicle, including mockups, test panels and prototypes.

(2) **"Airless/Air-Tight Cleaning System"** means a system that consists of a sealed cold solvent cleaner and the devices to condense and recover solvent and emission control devices to remove solvent from all gas streams that vent to the atmosphere. The system must have no open solvent-air interface, and be designed and operated in such a manner as to prevent the discharge or leakage of solvent emissions to the atmosphere during all cleaning and drying operations.

(3) **"Application Equipment"** means equipment used to apply coatings, inks, adhesives, or resins including, but not limited to: spray guns, rollers, brushes, and printing presses.

(4) **"Batch-loaded Solvent Cleaner"** means a degreaser in which any material is placed in solvent for cleaning and removed as a single batch after the cleaning is finished. This does not include remote reservoir cleaners.

(5) **"CFR"** means Code of Federal Regulations.

(6) **"Cold Solvent Cleaning (Degreasing) Operation"** means any solvent cleaning that is conducted in a tank, drum, or other container and that uses non-boiling solvent to remove contaminants.

(7) **"Cured"** means the coating, ink, adhesive, or resin is dry to the touch.

(8) **"Degreaser"** means a tank, drum, or other container in which objects to be cleaned are exposed to a solvent, in order to remove contaminants. This includes batch-loaded solvent cleaners and remote reservoir cleaners.

(9) **"Electrical Components"** means internal components 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, generators, transformers, and electric motors.

(10) **"Electronic Components"** means components or assemblies of components including, but not limited to, circuit card assemblies, printed wire assemblies, printed circuit boards, soldered joints, ground wires, bus bars, and other electrical fixtures, except for the cabinet in which the components are to be housed.

~~(11) **"Exempt Compounds"** means the same as defined in Rule 2.~~

~~(12) **"Existing Cold Solvent Cleaning or Stripping Operation"** means any cold solvent cleaning or stripping operation that is not new.~~

~~(13)~~11 **"Freeboard Height"** means:

(i) For batch-loaded solvent cleaners, the distance from the solvent-air interface to the top of the degreaser tank, based on inside tank dimensions.

(ii) For remote reservoir cleaners, the height from the bottom of the sink or work area to the top of the sink or work area.

~~(14)~~12 **"Freeboard Ratio"** means the freeboard height divided by the smaller of the interior length or width of the degreaser tank.

~~(15)~~13 **"Liquid Leak"** means any visible leak of a VOC-containing liquid at a rate in excess of three drops per minute.

~~(16)~~14 **"Liquid Surface Area"** means the area of interface between the liquid solvent available for dipping and the air which is contiguous with the outside of the solvent degreaser or stripping tank.

~~(17)~~15 **"Medical Device"** means an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent or other similar article including any component or accessory, that is intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment, or prevention of disease, or is intended to affect the structure or any function of the body.

~~(18)~~16 **"New Cold Solvent Cleaning or Stripping Operation"** means any cold solvent cleaning or stripping operation for which a complete application for an Authority to Construct in San Diego County was submitted after *(date of adoption)*.

~~(19)~~17 **"Precision Optics Components"** means the components used to create high resolution images in optical devices. This does not include eye glasses.

~~(20)~~18 **"Remote Reservoir Cleaner"** means a degreaser that consists of a sink or working area and a separate solvent tank that is not accessible for soaking parts and is completely enclosed except for a solvent return opening, which allows used solvent to drain into it from the sink or work area.

(2119) **"Sealing Fluid"** means a fluid that prevents evaporation of a stripping solvent by forming a liquid or solid layer on the solvent's surface.

(2220) **"Solvent"** means any substance containing an organic compound or combination of organic compounds which is liquid at atmospheric pressure and ambient temperature and which is used as a diluent, thinner, dissolver, viscosity reducer, or cleaning agent, or for other similar purposes.

(2321) **"Solvent-Air Interface"** means the area of contact between the solvent and air that is contiguous with the air outside the degreaser.

(2422) **"Solvent Carry-Out"** means solvent carried out of a degreaser that adheres to or is entrapped in the part being cleaned.

(2523) **"Solvent Cleaning Operation"** means any solvent cleaning activity including subsequent drying that is conducted in a degreaser to remove contaminants from parts, products, tools, machinery, and/or equipment.

(2624) **"Stripping Operation"** means a removal of cured coatings, inks, resins, or adhesives conducted with the use of solvents by immersion into a container such as tank or drum.

~~(27) **"Water-Based Material"** means any solvent that consists only of water and VOC and does not contain exempt compounds.~~

(2825) **"Wipe Cleaning"** means the method of cleaning a surface, not conducted in a container, by physically rubbing it with a material or device such as a rag, paper, or cotton swab moistened with a solvent.

~~(2926) **"Volatile Organic Compound (VOC)"** means any volatile compound containing at least one atom of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds the same as defined in Rule 2 - Definitions.~~

~~(27) **"VOC Content Per Volume of Material"** means the same as defined in Rule 2 – Definitions.~~

(d) STANDARDS

(1) VOC Content Requirements for Cold Solvent Cleaning Operations

~~Except as specified in Subsections (b)(2), (e)(1), or (e)(2), each solvent utilized in a cold solvent cleaning operation subject to this rule shall have a VOC content of 50 g/l (0.42 lbs/gal) of material or less, as used no cold solvent cleaning operation shall use materials with a VOC content exceeding 25 grams per liter (g/l) (0.21 lbs/gal) of material, as used.~~

(2) General Equipment Requirements for Cold Solvent Cleaning Operations

A person shall not conduct a cold solvent cleaning operation unless a degreaser is equipped with all of the following.

- (i) A cover that completely covers the solvent when work is not being performed in the degreaser. This includes covers for the sink or basin of a remote reservoir cleaner.
- (ii) A facility for draining parts such that the drained solvent returns to the degreaser.

(3) Equipment Specific Requirements for Cold Solvent Cleaning Operations

- (i) A person shall not operate a batch-loaded cold solvent cleaner unless it has:
 - (A) a freeboard ratio greater than or equal to 0.5,
 - (B) a cover easily operable with one hand or mechanically assisted, and
 - (C) a readily visible, permanent mark or line indicating the maximum allowable solvent level that conforms to the freeboard ratio.
- (ii) A person shall not operate a remote reservoir cleaner unless it has:
 - (A) a freeboard height of at least 6 inches (15 cm), and
 - (B) a sink-like work area for draining cleaned parts, which is sloped sufficiently towards the drain to preclude pooling of solvent.

(4) Operating Requirements for Cold Solvent Cleaning Operations

A person shall not conduct a cold solvent cleaning operation without meeting all of the following requirements.

- (i) A permanent, conspicuous, legible label listing the applicable operating requirements is posted on or near the degreaser.
- (ii) The solvent degreaser and any emission control system are properly installed and maintained in proper working order.
- (iii) Any emission control system is properly operating at all times when parts are being cleaned.
- (iv) The required cover is not removed except to process work or to perform maintenance.

(v) There are no liquid leaks from any portion of the degreaser. Upon detection of a liquid leak, the leak shall be repaired immediately, or the degreaser shall be shut down and drained in a manner that minimizes emissions.

(vi) No porous or absorbent materials, such as cloth, leather, wood, or rope are cleaned in the degreaser.

(vii) Solvent spraying, when necessary, is conducted by using only a continuous liquid stream (not a fine, atomized, fan, or shower type spray) at a pressure which does not cause liquid solvent to splash outside of the solvent container.

(viii) Solvent agitation, where necessary, is achieved exclusively through pump circulation or by means of a mechanical mixer or ultrasonic agitation. Air or gas agitation shall not be used.

(ix) For batch-loaded cleaners the actual solvent level is not above the marked maximum solvent level line at any time.

(x) The degreaser is not exposed to drafts greater than 131 feet (40 meters) per minute.

(xi) Solvent carry-out is minimized by all of the following methods:

(A) allowing for full drainage by racking parts or other means;

(B) tipping out any pools of solvent from the cleaned parts before removal; and

(C) allowing parts to dry within the degreaser until visually dry or dripping ceases.

(xii) Waste solvent and contaminated residue, if any, shall be recycled or disposed of according to requirements based on the California Health and Safety Code, Division 20, Chapter ~~6.3~~6.5 (beginning at Section 25100) concerning hazardous waste disposal.

(5) Equipment Requirements for Stripping Operations

A person shall not operate stripping equipment unless it is equipped with all of the following.

(i) A cover that completely covers the solvent when work is not processed in the tank.

(ii) A facility for draining parts such that the drained solvent returns to the container.

(iii) A readily visible, permanent mark or line indicating the maximum allowable solvent level that conforms to the freeboard ratio in Subsection (d)(5)(iv) below, unless a sealing fluid is used.

(iv) Stripping equipment has:

(A) a freeboard ratio greater than or equal to 0.75; or

(B) a sealing fluid.

(6) Operating Requirements for Stripping Operations

A person shall not conduct a stripping operation without meeting all of the following requirements.

(i) A permanent, conspicuous, legible label listing the applicable operating requirements is posted on or near the stripping operation.

(ii) The stripping equipment and any emission control system are properly installed and maintained in proper working order.

(iii) Any emission control system is properly operating at all times when parts are being stripped.

(iv) The required cover is not removed except to process work or to perform maintenance.

(v) There are no liquid leaks from any portion of the stripping equipment. Upon detection of a liquid leak, the leak shall be repaired immediately, or the stripping tank drained and taken out of service, in a manner that minimizes emissions.

(vi) Solvent is not above the marked maximum solvent level line, unless a sealing fluid is used.

(vii) Solvent carry-out is minimized by all of the following methods:

(A) allowing for full drainage by racking parts or by other means;

(B) tipping out any pools of solvent from the stripped parts before removal; and

(C) allowing parts to dry within the stripping equipment until visually dry or dripping ceases.

(viii) Solvent agitation, where necessary, is achieved exclusively through pump circulation or by means of a mechanical mixer or ultrasonic agitation. Air or gas agitation shall not be used.

(ix) Solvent spraying, when necessary, is conducted by using only a continuous fluid stream (not a fine, atomized, fan, or shower type spray) at a pressure which does not cause liquid solvent to splash outside of the solvent container.

(x) Waste solvent and contaminated residue, if any, shall be recycled or disposed of according to requirements based on the California Health and Safety Code, Division 20, Chapter ~~6.3~~6.5 (beginning at Section 25100) concerning hazardous waste disposal.

(e) CONTROL EQUIPMENT

(1) In lieu of complying with the requirements in Subsections (d)(1), (d)(2), and (d)(3) an owner/operator may use an ~~air-tight~~/airless/~~air-tight~~ cold solvent cleaner provided that all of the following requirements are met:

(i) The equipment is operated in accordance with the manufacturer's specifications and with a door or other pressure sealing apparatus in place during all cleaning and drying cycles;

(ii) All associated pressure relief devices do not allow liquid solvents to drain out. Spills during any solvent transfer shall be cleaned up immediately;

(iii) A differential pressure gauge is installed to indicate the sealed chamber pressure;

(iv) The equipment complies with all applicable operating requirements of Subsection (d)(4).

(2) In lieu of complying with the requirements of Subsections (d)(1), (d)(2), (d)(3), and (d)(5) a person conducting a cold solvent cleaning or stripping operation may use an air pollution control system which:

(i) Has been installed in accordance with an Authority to Construct; and

(ii) Has a combined emissions capture and control efficiency of at least 85% by weight.

(3) A person electing to use control equipment pursuant to Subsection (e)(2) shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance plan for the proposed emission control and collection system and receive approval prior to operation of the control equipment. Thereafter, the plan can be modified, with Air Pollution Control Officer approval, as necessary to ensure compliance. Such a plan shall:

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(2)(ii), such as temperature and/or pressure;

(ii) Include proposed inspection schedules, anticipated ongoing maintenance, and proposed recordkeeping practices regarding the key system operating parameters; and

(iii) Upon approval by the Air Pollution Control Officer, a person subject to the requirements of Subsection (e)(2) shall implement the Operation and Maintenance plan and shall comply with the all the provisions of the approved plan.

(f) RECORD KEEPING REQUIREMENTS

(1) Any person conducting a cold solvent cleaning or stripping operation subject to this rule shall maintain the following records:

(i) A current list of solvents and sealing fluids in use, which provides all of the data necessary to evaluate compliance, including but not limited to:

(A) Manufacturer name and identification for each solvent, and

(B) VOC content of solvent expressed in g/l (lbs/gal) of material as used, and density and mix ratios for each solvent.

(2) Any person using control equipment pursuant to Section (e) of this rule shall:

(i) Maintain records in accordance with the requirements of Subsection (f)(1); and

(ii) Maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan pursuant to Subsection (e)(3). Such records shall be sufficient to document continuous compliance with Subsection (e)(2)(ii) during periods of emission producing activities.

All records shall be retained on site for at least three years and shall be made available to the District upon request.

(g) TEST METHODS

When more than one test method or set of test methods are specified in this Section, 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 the rule.

(1) The VOC content of cleaning materials shall be determined by the South Coast Air Quality Management District (SCAQMD) Method 313-91 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry), February 1997, SCAQMD Method 308-91 (Quantitation of Compounds by Gas

Chromatography), February 1993, or any other test methods approved by the Environmental Protection Agency (EPA), California Air Resources Board (CARB), and the Air Pollution Control District.

(2) The overall control efficiency of air pollution control equipment operated pursuant to Subsection (e)(2)(ii) shall be determined by multiplying the capture efficiency of the emission collection system by the control efficiency of the air pollution control device. The control efficiency of the air pollution control device shall be determined using EPA Test Methods 18 and ~~25 or~~ 25A (40 CFR 60, Appendix A), August 2017; and in accordance with a protocol approved by the Air Pollution Control Officer. Capture efficiency shall be determined according to EPA Test Methods 204 and 204A through 204F (40 CFR Part 51, Appendix M) as applicable, August 2017; and technical document "Guidelines for Determining Capture Efficiency," January 1995. Subsequent to the initial compliance demonstration period, appropriate key system operating parameters as determined by the Air Pollution Control Officer may be used as indicators of the performance of the emission control system.

(h) COMPLIANCE SCHEDULE

~~(1) All new cold solvent cleaning or stripping operations shall comply with the applicable requirements of this rule upon initial startup.~~

~~(2) All existing cold solvent cleaning or stripping operations shall comply with the applicable requirements of this rule not later than May 23, 2008.~~

~~(3) The owner or operator of existing cold solvent cleaning or stripping equipment that will require modifications pursuant to the requirements of Subsections (d)(1), (d)(3), and/or (d)(5), except for those switching to a water-based solvent with a VOC content 50 g/l or less shall:~~

~~(i) By November 23, 2007, submit to the Air Pollution Control Officer an application to modify a Permit to Operate for complying with the applicable requirements of Subsections (d)(1), (d)(3), and/or (d)(5).~~

~~(ii) By May 23, 2008, comply with all applicable rule requirements.~~

~~(4) The owner or operator of existing cold solvent cleaning or stripping equipment that chooses to comply with the rule by installing air pollution control equipment pursuant to Section (e) of this rule shall comply with the following increments of progress:~~

~~(i) By November 23, 2007, submit to the Air Pollution Control Officer an application for an Authority to Construct and a Permit to Operate an air pollution control system as specified in Section (e).~~

~~(ii) By May 23, 2008, comply with all applicable rule requirements.~~

RULE 67.6.2 VAPOR DEGREASING OPERATIONS

(Adopted & Effective 5/23/07; Rev. Adopted & Effective *(date of adoption)*)

(a) APPLICABILITY

(1) Except as provided in Section (b) Exemptions, this rule is applicable to all vapor degreasing operations.

(2) Rule 66.1 – Miscellaneous Surface Coating Operations and Other Processes Emitting Volatile Organic Compounds shall not apply to any vapor degreasing operation.

(b) EXEMPTIONS

(1) This rule shall not apply to the following:

(i) ~~Except for requirements for waste solvent disposal in Subsection (d)(4)(xiii),~~ Vapor degreasing operations that exclusively utilize ~~water-based cleaning materials~~ with a volatile organic compound (VOC) content of ~~50-25~~ grams per liter (g/l) ~~of material (0.42 pounds per gallon (0.21 lbs/gal) of material~~ or less, as used.

It shall be the responsibility of any person conducting such operations to keep a current list of all cleaning materials and the VOC content of each material, as ~~applied used~~, to substantiate this exemption.

(ii) Vapor-phase solder reflow units.

(iii) Vapor degreasing operations conducted in a container with a vapor-air interface area of one square foot (0.09 square meters) or less or with a maximum solvent capacity of one gallon (3.8 liters) or less.

(c) DEFINITIONS

(1) **"Airless/Air-Tight Vapor Degreaser"** means a system that consists of a sealed vapor degreaser and the devices to condense and recover solvent and emission control devices to remove solvent from all gas streams that vent to the atmosphere. The system must have no open vapor-air interface, and be designed and operated in such a manner as to prevent the discharge or leakage of solvent emissions to the atmosphere during all cleaning and drying operations.

(2) **"Batch-loaded Solvent Degreaser"** means a degreaser in which any material is placed for cleaning and removed as a single batch after the cleaning is finished.

(3) **"CFR"** means Code of Federal Regulations.

(4) **"Degreaser"** means a tank, drum, or other container in which objects to be cleaned are exposed to a solvent or solvent vapors, in order to remove contaminants.

- (5) **"Exempt Compounds"** means the same as defined in Rule 2.
- (6) **"Existing Vapor Degreasing Operation"** means any vapor degreasing operation that is not new.
- (75) **"Freeboard Height"** means the distance from the solvent vapor-air interface to the top of the degreaser tank, based on inside tank dimensions.
- (86) **"Freeboard Ratio"** means the freeboard height divided by the smaller of the interior length or width of the degreaser tank.
- (97) **"Liquid Leak"** means any visible leak of a VOC-containing liquid at a rate in excess of three drops per minute.
- (108) **"New Vapor Degreasing Operation"** means any vapor degreasing operation for which a complete application for an Authority to Construct in San Diego County was submitted after *May 23, 2007 (date of adoption)*.
- (119) **"Open-top Vapor Degreaser"** means any batch-loaded vapor degreaser.
- (1210) **"Perimeter Trough"** means a receptacle within the vapor degreaser located below the primary condenser that conveys condensed solvent and atmospheric moisture to a water separator.
- (1311) **"Primary Condenser"** means a series of circumferential cooling coils on the inside of walls of a vapor degreaser through which a chilled substance is circulated or recirculated to provide continuous condensation of rising solvent vapors, thereby creating a concentrated solvent vapor zone.
- (1412) **"Refrigerated Freeboard Chiller"** means an emission control device which is mounted above the degreaser's water jacket or primary condenser coils, and which consists of secondary coils that carry a refrigerant to provide a chilled air blanket above the solvent vapor.
- (1513) **"Solvent"** means any substance containing an organic compound or combination of organic compounds which is liquid at atmospheric pressure and ambient temperature and which is used as a diluent, thinner, dissolver, viscosity reducer, or cleaning agent, or for other similar purposes.
- (1614) **"Solvent Carry-Out"** means solvent carried out of a degreaser that adheres to or is entrapped in the part being cleaned.
- (1715) **"Vapor-Air Interface"** means the area of contact between the solvent vapors and air that is contiguous with the air outside the degreaser. The area of the vapor-air interface shall be calculated as the product of the lengths between internal solvent cleaner walls behind the condensing coils.

~~(1816)~~ **"Vapor-Phase Solder Reflow Unit"** means a device in which parts are immersed in VOC-rich vapor generated by boiling a liquid for heating to melt or soften solder connections of electronic components.

~~(1917)~~ **"Vapor Degreaser"** means a degreaser in which objects to be cleaned are exposed to a boiling solvent or solvent vapors.

~~(2018)~~ **"Vapor Degreasing Operation"** means a cleaning operation that is conducted by immersing parts, products, tools or other items in a boiling solvent or in solvent vapors generated by boiling solvent.

~~(2119)~~ **"Volatile Organic Compound (VOC)"** means ~~any volatile compound containing at least one atom of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds~~ the same as defined in Rule 2 – Definitions.

(20) **"VOC Content Per Volume of Material"** means the same as defined in Rule 2 – Definitions.

~~(22) **"Water-Based Cleaning Material"** means cleaning material that consists only of water and VOC and does not contain any exempt compounds.~~

~~(2321)~~ **"Water Separator"** means a device that isolates water from a solvent or a mixture of solvents through mechanical or chemical means.

(d) **STANDARDS**

(1) General Equipment Requirements

A person shall not operate any vapor degreaser unless it is equipped with all of the following:

(i) A cover that can be easily operated without disturbing the vapor layer and that completely covers the solvent tank when work is not performed in the degreaser;

(ii) A primary condenser situated above the boiling solvent;

(iii) A water separator that does not operate by means of evaporation or distillation;

(iv) A perimeter trough;

(v) For vapor degreasers employing sprays:

(A) spray nozzles having a pressure low enough to prevent liquid splashing outside of the tank, and

(B) spray nozzles which produce continuous liquid flow, rather than fine atomized or shower type sprays; or

(C) spray nozzles which are located below the vapor-air interface.

(2) Additional Equipment Requirements

All vapor degreasers shall have one of the following:

(i) A freeboard ratio of at least 1.0; or

(ii) A refrigerated freeboard chiller, where the chilled air blanket temperature measured in degrees Fahrenheit at the center of the air blanket is not greater than 40% of the initial boiling point of the solvent; or

(iii) Be designed in such a manner that its cover or door opens only when the dry part is entering or exiting the degreaser.

(3) Safety Devices

Vapor degreasers shall be equipped with the following safety devices:

(i) A device which shuts off the sump heat if the condenser's coolant stops circulating. This requirement does not apply to vapor degreasers equipped with refrigerated condensers; and

(ii) A device which shuts off the sump heat if the condenser's coolant or refrigerant temperature becomes higher than the designed operating temperature; and

(iii) A device which is only manually resettable and which shuts off the sump heat if the vapor level rises above the designed operating level;

(iv) For vapor degreasers employing sprays, a device that prevents spray pump operation if the solvent vapor-air interface temperature falls below the designed operating level.

(4) Operating Requirements

A person shall not operate a vapor degreaser unless all of the following requirements are met:

(i) A permanent, conspicuous, legible label listing the applicable operating requirements is posted on or near the degreaser;

(ii) The degreaser and any emission control equipment are installed and maintained in proper working order. The emission control equipment shall be properly operating at all times when parts are being cleaned or solvent is being heated in the degreaser;

- (iii) The cover is not removed except to process workload or to perform maintenance;
- (iv) There are no liquid leaks from any portion of the degreaser. Upon detection of a liquid leak, the leak shall be repaired immediately, or the degreaser shall be shut down and drained in a manner that minimizes emissions;
- (v) Ventilation fans are not positioned near the degreaser openings in such a way as to disturb the vapor zone;
- (vi) At startup, the primary condenser and the refrigerated freeboard chiller, if required, are turned on before the sump heater is turned on. At shutdown, the sump heater is turned off before the primary condenser and refrigerated freeboard chiller are turned off;
- (vii) No porous or absorbent materials, such as cloth, leather, wood, or rope are cleaned in a vapor degreaser;
- (viii) Solvent is not sprayed above the vapor-air interface;
- (ix) Exhaust ventilation rate does not exceed 65 cubic feet per minute per square foot (20 cubic meters per minute per square meter) of the degreaser vapor-air interface area, unless necessary to meet OSHA requirements;
- (x) Workloads placed in the degreaser occupy a horizontal cross-sectional area that is less than one half of the vapor-air interface area;
- (xi) The water separator is maintained to prevent water from returning to the surface of the boiling solvent sump or from becoming visibly detectable in the solvent exiting the water separator; and
- (xii) Solvent carry-out is minimized by all of the following methods:
 - (A) racking parts for full drainage;
 - (B) moving parts in and out of the degreaser at a speed of less than 11 feet per minute (3.3 meters per minute);
 - (C) cleaning the workload in the vapor zone until condensation ceases;
 - (D) tipping out any pools of solvent on the cleaned parts before removal; and
 - (E) not removing parts from the degreaser until they are visually dry.
- (xiii) Waste solvent and contaminated residue, if any, shall be recycled, or disposed of according to requirements based on the California Health and Safety

Code, Division 20, Chapter ~~63-6.5~~ (beginning at section 25100) concerning hazardous waste disposal.

(e) **CONTROL EQUIPMENT**

(1) In lieu of complying with the equipment requirements in Subsections (d)(1), (d)(2), and (d)(3), an owner/operator may use an ~~air-tight~~-airless/air-tight vapor degreaser provided that all of the following requirements are met:

(i) The degreaser is operated in accordance with the manufacturer's specifications and is equipped with a door or other pressure sealing apparatus in place during all cleaning and drying cycles;

(ii) All associated pressure relief devices do not allow liquid solvents to drain out. Spills during any solvent transfer shall be wiped up immediately;

(iii) A differential pressure gauge is installed to indicate the sealed chamber pressure;

(iv) The applicable operating requirements of Subsection (d)(4) are met.

(2) In lieu of complying with the requirements of Subsections (d)(1), (d)(2), and (d)(3), an owner/operator of a vapor degreaser may use an air pollution control system which:

(i) Has been installed in accordance with an Authority to Construct; and

(ii) Has a combined emissions capture and control efficiency of at least 85% by weight.

(3) A person electing to use control equipment pursuant to Subsection (e)(2) shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance plan for the proposed air pollution control system and receive approval prior to operation of the control equipment. Thereafter, the plan can be modified, with Air Pollution Control Officer approval, as necessary to ensure compliance. Such plan shall

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(2)(ii), such as temperature and/or pressure;

(ii) Include proposed inspection schedules, anticipated ongoing maintenance, and proposed recordkeeping practices regarding the key system operating parameters; and

(iii) Upon approval of the Air Pollution Control Officer, a person subject to the requirements of Subsection (e)(2) shall implement the Operation and Maintenance plan and shall comply with the all the provisions of the approved plan.

(f) **RECORD KEEPING REQUIREMENTS**

(1) Any person conducting vapor degreasing operations subject to this rule shall maintain the following records:

(i) A current list of cleaning materials in use, which provides all of the data necessary to evaluate compliance, including but not limited to:

(A) Manufacturer name and identification for each material;

(B) VOC content expressed in g/l (lb/gal) of material as used, and density and mixed ratios for each component; and

(C) Initial boiling point of a cleaning material if a refrigerated freeboard chiller is used.

(2) Any person using control equipment pursuant to Section (e) Control Equipment of this rule shall:

(i) Maintain records in accordance with the requirements of Subsection (f)(1); and

(ii) Maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan pursuant to Subsection (e)(3). Such records shall be sufficient to document continuous compliance with Subsection (e)(2)(ii) during periods of emission producing activities.

All records shall be retained on site for at least three years and shall be made available to the District upon request.

(g) **TEST METHODS**

When more than one test method or set of test methods are specified in this Section, 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 the rule.

(1) The VOC content of cleaning materials shall be determined by the South Coast Air Quality Management District (SCAQMD) Method 313-91 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry), February 1997, SCAQMD Method 308-91 (Quantitation of Compounds by Gas Chromatography), February 1993, or any other test methods approved by the Environmental Protection Agency (EPA), California Air Resources Board (ARB), and the Air Pollution Control District.

(2) Measurement of initial boiling point of solvents shall be conducted in accordance with ASTM Standard Test Method D1078-03-11(2019) (Standard Test Method

for Distillation Range of Volatile Organic Liquids), ~~November 2011 for distillation range of volatile organic liquids~~, or its most current version₅.

(3) Hoist speed shall be determined by measuring the distance traveled by the hoist per unit of time.

(4) Temperatures in the vapor zone shall be measured with the use of a properly calibrated temperature probe, with an accuracy of $\pm 1^\circ \text{F}$.

(5) The overall control efficiency of air pollution control equipment operated pursuant to Subsection (e)(2)(ii) shall be determined by multiplying the capture efficiency of the emission collection system by the control efficiency of the air pollution control device. The control efficiency of the air pollution control device shall be determined using EPA Test Methods 18 and ~~25 or 25A~~ (40 CFR 60, Appendix A), August 2017; and in accordance with a protocol approved by the Air Pollution Control Officer. Capture efficiency shall be determined according to EPA Test Methods 204 and 204A through 204F (40 CFR Part 51, Appendix M) as applicable, August 2017; and technical document "Guidelines for Determining Capture Efficiency," January 1995. Subsequent to the initial compliance demonstration period, appropriate key system operating parameters as determined by the Air Pollution Control Officer may be used as indicators of the performance of the emission control system.

(h) COMPLIANCE SCHEDULE

~~(1) All new vapor degreasing operations shall comply with the applicable requirements of this rule upon initial startup.~~

~~(2) All existing vapor degreasing operations, except for those specified in Subsection (h)(3) or (h)(4), shall comply with the applicable requirements of this rule after May 23, 2007.~~

~~(3) An owner or operator of any existing vapor degreaser that currently does not comply with one of the requirements of Subsection (d)(2) shall:~~

~~(i) By November 23, 2007, submit to the Air Pollution Control Officer an application to modify a Permit to Operate for complying with the applicable requirements of Subsections (d)(2);~~

~~(ii) By May 23, 2008, comply with all applicable rule requirements.~~

~~(4) An owner or operator of an existing vapor degreaser that chooses to comply with the rule by installing air pollution control equipment pursuant to Section (e) of this rule shall comply with the following increments of progress:~~

~~(i) By November 23, 2007, submit to the Air Pollution Control Officer an application for an Authority to Construct and a Permit to Operate an air pollution control system as specified in Section (e);~~

(ii) ~~By May 23, 2008, comply with all applicable rule requirements.~~