AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

May 23, 2006

NOTICE OF WORKSHOP

FOR DISCUSSION OF THE REPEAL OF CURRENT RULE 67.6 – SOLVENT CLEANING OPERATIONS AND ADOPTION OF NEW RULES 67.6.1 – COLD SOLVENT CLEANING AND STRIPPING OPERATIONS AND 67.6.2 – VAPOR DEGREASING OPERATIONS

The San Diego County Air Pollution Control District (District) will hold a public meeting to discuss the repeal of current Rule 67.6 – Solvent Cleaning Operations and the adoption of new Rules 67.6.1 – Cold Solvent Cleaning and Stripping Operations and Rule 67.6.2 – Vapor Degreasing Operations. Comments and questions concerning the proposal may be submitted in writing before or made at the meeting, which is scheduled as followed:

DATE: **Tuesday, July 11, 2006**

TIME: **9:00 a.m. – 11:00 a.m.**

PLACE: **Al Bahr Shrine**
5440 Kearny Mesa Road
San Diego, CA 98080
(A map to Al Bahr follows.)

San Diego County does not meet the National and State Ambient Air Quality Standards for ozone and is classified as an ozone nonattainment area. Both federal and State laws require the District to implement rules that regulate emissions of ozone precursors - volatile organic compounds (VOC) and oxides of nitrogen (NOx).

Current Rule 67.6 regulates the use of organic compounds in solvent cleaning operations, which include vapor degreasing, cold solvent degreasing, paint stripping operations, and gas-path cleaners. The rule was first adopted in 1979 and last revised in 1990. It was approved by the Environmental Protection Agency (EPA) and is included in the State Implementation Plan (SIP).

Existing Rule 67.6 controls not only VOC emissions from solvent cleaning operations but also emissions of organic solvents containing toxic air contaminants and chlorinated fluorocarbons that deplete stratospheric ozone. However, Rule 67.6 does not reflect recent advances in low-emitting solvents, aqueous-based cleaners, and emission control systems that are being required by other air districts in California.

The District is proposing to replace Rule 67.6 with two new rules, one for cold solvent degreasing and stripping operations (Rule 67.6.1) and another for vapor degreasing operations (Rule 67.6.2). The draft rules include new emission reduction requirements for solvent cleaning operations. The rules are also updated to exclude previously regulated equipment, such as conveyorized cold- and vapor degreasers that do not presently operate in San Diego County. Any new equipment operating in the future will be subject to the District's New Source Review Rules. Both draft rules will fulfill the District's commitment in the San Diego County Regional Air Quality Strategy (RAQS) to implement all feasible control measures as required by State law. Current Rule 67.6 will be repealed 12 months after adoption of Rules 67.6.1 and 67.6.2 to allow existing facilities to comply with the more stringent requirements of those new rules.

New Rule 67.6.1

Proposed new Rule 67.6.1 applies to all cold solvent degreasing or stripping operations conducted in a tank, drum, or other container. It has several requirements identical to current Rule 67.6. As in the current rule, the new rule does not apply to cleaning of coating application equipment, nor to dry cleaning or wipe cleaning operations. The new rule continues to exempt stripping operations not conducted in a container and which are already subject to District Rules 67.9 (Aerospace Component Coating Operations), Rule 67.11 (Wood Products Coating Operations), and Rule 67.11.1 (Large Wood Coating Operations for Wood Products). It also contains the current exemptions for small cold solvent cleaning or stripping operations and degreasers used exclusively for educational purposes. The operational and equipment requirements are also similar to those of the existing rule for cold solvent degreasing and stripping operations. However, proposed new Rule 67.6.1 will restrict the VOC content of cleaning materials for the majority of cold cleaning operations and removes exemptions for pre-1980 and pre-1990 operations using chlorinated fluorocarbons, and hazardous (toxic) air pollutants 1,1,1-trichloroethane and methylene chloride.

Specifically, proposed new Rule 67.6.1 will:

- Require that each solvent utilized in a cold solvent cleaning operation (with specific exemptions as described below) have a VOC content of 50 grams per liter (0.42 lbs/gal) of material or less, as used. Facilities can use cleaning materials formulated with water or exempt compounds, or a combination of both.

- Exempt cleaning operations using exclusively water-based materials with a VOC content of 50 grams per liter (g/l) or less, from most all rule requirements provided the records required by the rule are kept. Facilities using cleaning materials with a VOC content of 50 g/l or less and formulated with exempt compounds (rather than water-based) must comply with the equipment and operational requirements of the rule.

- Exempt cleaning of electronic components, electrical components, medical devices, aerospace components, or precision optics components from the 50 g/l VOC content limit. However, facilities conducting these operations must comply with the equipment and operational requirements of the rule.

- Exempt cold solvent cleaning operations regulated by the *National Emission Standard for Hazardous Air Pollutants: Halogenated Solvent Cleaning* from all requirements.

- Allow the use of airless or airtight degreasers for cleaning operations in lieu of complying with the 50 g/l VOC content limit and equipment and operational requirements of the rule.

- Require remote reservoir cleaners to meet a freeboard height of at least six inches.

- Require paint stripping equipment to have a freeboard ratio of at least 0.75 or use a sealing fluid.

- Revise and update definitions for major terms used in the rule.

- Update the test methods for determining compliance.

- Provide a compliance schedule for facilities needing to modify or replace their equipment or install an air pollution control system for compliance with the new rule requirements.

Presently, Rule 67.6 also regulates gas-path cleaners (corrosion control carts) that are used for removal of corrosion or combustion deposits for interiors of gas turbine engines. The District has determined that currently no permitted gas-path cleaners operate in San Diego County. Therefore, proposed new Rule 67.6.1 does not address these operations. Any new equipment proposed in the future will be subject to the District's New Source Review Rules.

New Rule 67.6.2
Proposed new Rule 67.6.2 applies to vapor degreasing operations. The rule requirements are generally identical to those in current Rule 67.6. As in the current rule, the new rule exempts small vapor degreasing operations.

In addition new Rule 67.6.2 will:

- Exempt vapor degreasers using a water-based solvent with a VOC content of 50 g/l or less, from all requirements.

- Exempt vapor-phase solder reflow units because the design of these units is substantially different than a vapor degreaser.

- Allow the owners or operators of vapor degreasers to choose from a variety of control options including an enclosed cover system, a freeboard ratio of 1.0, or a refrigerated freeboard chiller.

- Revise and update definitions for the major terms used in the rule.

- Update the test methods for determining compliance.

- Provide a compliance schedule for facilities needing to modify or replace their equipment or install an air pollution control system for compliance with the new rule.

If you would like a copy of existing Rule 67.6 or proposed new Rules 67.6.1 or 67.6.2, please access the District's website at www.sdacpd.org under Rules and Regulations, Public Workshop or call Luann Serbesku at (858) 586-2755. If you have any questions concerning the proposal, please contact Steven Moore at (858) 586-2750, Cara Bandera at (858) 586-2751, or Natalie Yates (858) 586-2756.

MICHAEL R. LAKE, Assistant Director
Air Pollution Control District

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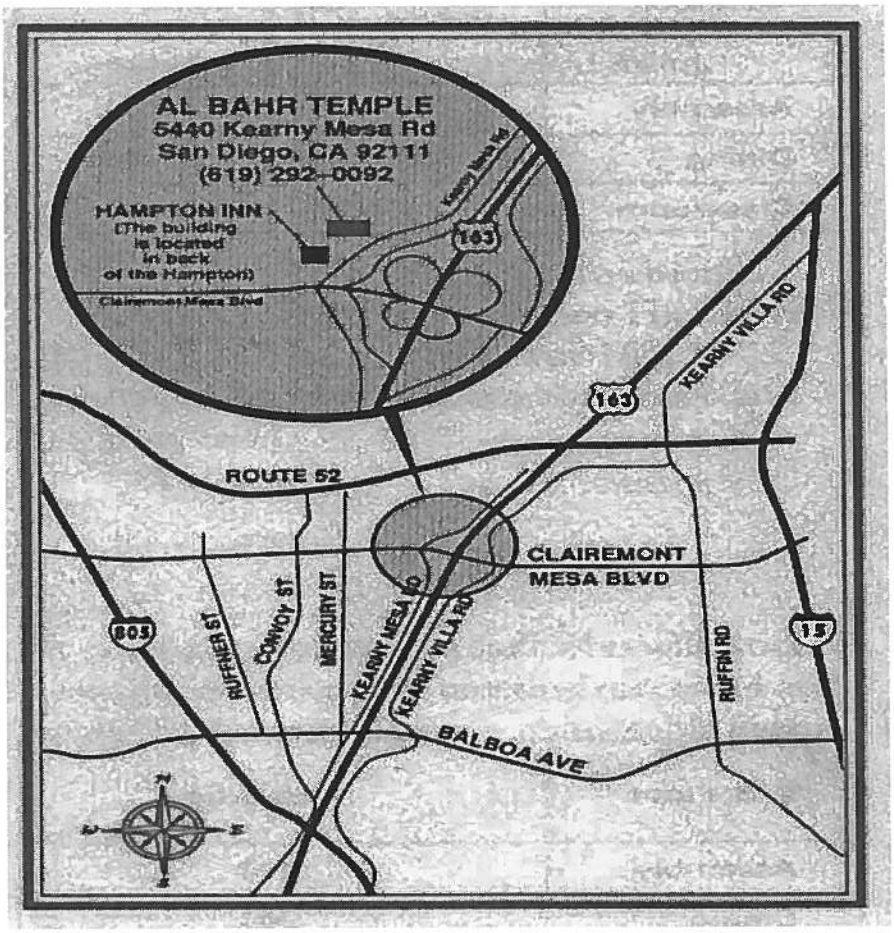

RULE 67.6 - SOLVENT CLEANING OPERATION is proposed to be deleted in its entirety.

RULE 67.6. SOLVENT CLEANING OPERATIONS (Effective 7/25/79: Rev. Effective 10/16/90)

(a) **APPLICABILITY**

This rule is applicable to all surface cleaning or stripping operations or gas-path cleaners which use solvents for the purpose of removing surface impurities or coatings, and preparing parts or products for painting, plating, repair, inspection, assembly, heat treatment, or for any other use. This rule is also applicable to operations which immerse items in solvent-rich atmospheres for heating or any other purpose, including vapor-phase solder reflow operations.

(b) **EXEMPTIONS**

(1) Cleaning Material

The provisions of Section (d) shall not apply to any solvent cleaner installed, or for which application for an Authority to Construct was received, before September 1, 1980, and which, prior to and since September 1, 1980, has continuously employed exclusively any of the following cleaning materials:

(i) 1,1,1-Trichloroethane

(ii) Trichlorotrifluoroethane

(iii) Methylene Chloride

The provisions of Section (d) shall not apply to any cold solvent cleaner with a liquid surface area less than 5 square feet and vapor solvent cleaner with a vapor-air interface less than 5 square feet installed, or for which application for an Authority to Construct was received before October 16, 1990, and that employ any of the following cleaning materials:

(i) 1,1,1-Trichloroethane

(ii) Trichlorotrifluoroethane

(iii) Methylene Chloride

(2) Wipe Cleaning

The provisions of Section (d) shall not apply to any solvent cleaning operation employing only wipe cleaning.

(3) The provisions of Section (d) shall not apply to any cold solvent cleaner dip tank with a liquid surface area of 1 square foot (0.09 square-meters) or less, or with a capacity of 1 gallon or less.

(4) Operations Subject to Rules 67.9 or 67.11.

The provisions of Section (d) shall not apply to non-immersion stripping or coating equipment cleanup operations subject to the requirements of Rule 67.9 or Rule 67.11.

(5) Dry Cleaning Operations.

The provisions of Section (d) shall not apply to the application of solvent to garments, fabrics, or leather for the purposes of cleaning when such applications are subject to the requirements of Rule 67.2 or Rule 67.8.

(c) **DEFINITIONS**

(1) **"Cold Solvent Cleaner"** means any non-boiling solvent cleaner, excluding conveyorized solvent cleaners, vapor solvent cleaners, and gas-path cleaners, and wipe cleaning operations, and including spray sinks, spray booths, strippers, remote-reservoir cleaners, and dip tanks. Solvent cleaners which employ heated but non-boiling solvents shall be considered cold solvent cleaners.

(2) **"Conveyorized Cold Solvent Cleaner"** means any continuously loaded, solvent cleaner which is not a conveyorized vapor solvent cleaner.

(3) **"Conveyorized Vapor Solvent Cleaner"** means any continuously loaded solvent cleaner which immerses parts in boiling solvent or in solvent vapors generated by boiling solvent. Conveyorized solvent cleaners which contain any vapor solvent cleaning sections shall be considered conveyorized vapor solvent cleaners.

(4) **"Existing Unit"** means, for the purposes of this rule, one which was installed and operating in San Diego County before October 16, 1990.

(5) **"Freeboard Chiller"** means a condenser placed above the primary condenser which provides a blanket of cold air above the vapor-air interface to reduce emissions.

(6) **"Freeboard Height"** means

(i) For cold solvent cleaner dip tanks, the distance from the maximum solvent level line to the top of the tank.

(ii) For open-top vapor solvent cleaners, the distance from the solvent vapor-air interface to the top of the solvent cleaner tank.

(iii) For conveyorized solvent cleaners, the distance from the top of the solvent or solvent vapor-air interface to the bottom of the lowest entrance of the solvent cleaner.

(7) **"Freeboard Ratio"** means the freeboard height divided by the smaller of the interior length or width of the solvent cleaner tank.

(8) **"Gas-Path Cleaner (Corrosion Control Cart)"** means equipment which applies solvent to the interiors of gas turbines or jet engines for removal of corrosion or combustion deposits.

(9) **"Liquid Leak"** means any visible leak of liquid solvent at a rate in excess of three drops per minute.

(10) **"Liquid Surface Area"** means the area of the interface between the liquid solvent available for dipping and the air which is contiguous with the outside of the solvent cleaner. The area of surfaces wetted by the solvent before it drains into a reservoir in a section of the solvent cleaner used for parts drainage and not used for dipping shall not be included in the liquid surface area.

(11) **"Open-top Vapor Solvent Cleaner"** means any batch loaded, vapor solvent cleaner.

(12) **"Organic Compound"** means any compound of carbon (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and methane) which might be emitted during use, processing, application, curing, or drying of a solvent or other material.

(13) **"Remote-Reservoir Solvent Cleaner"** means any batch-loaded cold solvent cleaner in which liquid solvent is pumped to a sink-like work area which drains back into a liquid solvent tank, which is completely enclosed except for the drain opening, while parts are being cleaned. For the purposes of this rule any cold solvent cleaner except for wipe stations, dip tanks, and gas-path cleaners shall be considered a remote-reservoir solvent cleaner.

(14) **"Solvent"** means, for the purposes of this rule, any liquid containing more than 10 percent by weight of organic compounds and which is used to dissolve, clean, strip, or remove impurities, coatings, stains, or films from surfaces.

(15) **"Solvent Cleaner"** means a device which applies solvent or in which solvent is applied to items for the purpose of removing or stripping impurities, coatings, stains, or films.

(16) **"Stripper"** means a solvent cleaner in which solvent is applied to a surface for the purpose of removing a film, coating, or stain, including, but not limited to, dip tanks and spray sinks.

(17) **"Stripping"** means applying solvent to remove a coating or film from a surface.

(18) **"Vapor-Air Interface"** means the area of contact between the solvent vapors and air which is contiguous with the air outside the solvent cleaner.

(i) 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.

(ii) The perimeter of the vapor-air interface shall be calculated as the sum of the lengths of the internal solvent cleaner walls behind the condensing coils.

(19) **"Vapor-Phase Solder Reflow Unit"** means a device in which parts are immersed in an organic compound-rich vapor generated by boiling a liquid for heating to melt or soften solder connections of electronic components. For the purposes of this rule batch-loaded vapor-phase solder reflow units shall be considered open-top vapor solvent cleaners and continuously loaded vapor-phase solder reflow units shall be considered conveyorized vapor solvent cleaners.

(20) **"Vapor Solvent Cleaner"** means a solvent application device in which parts are immersed in an organic compound-rich vapor generated by boiling a liquid for cleaning. For the purposes of this rule vapor-phase solder reflow units shall be considered to be vapor solvent cleaners. For the purposes of this rule solvent cleaners which immerse parts in boiling solvent shall be considered vapor solvent cleaners.

(21) **"Wipe Cleaning"** means that 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 surfaces.

(d) **STANDARDS AND REQUIREMENTS**

(1) General Equipment Requirements. A person shall not operate a solvent cleaner unless all of the following are used:

(i) A container for the solvent ;

(ii) An apparatus or cover which completely covers the solvent container when not processing work;

(iii) A facility for draining cleaned parts such that drained solvent is returned to the container; and

(iv) A permanent, conspicuous, legible label listing the applicable operating requirements contained in Subsections (d)(5) through (d)(9).

(2) Cold Solvent Cleaner Equipment Requirements. A person shall not operate a cold solvent cleaner unless the requirements of Subsection (d)(1) are met and the following are used:

(i) A cover which is easily operable with one hand or mechanically assisted.

(ii) For dip tanks or dip sections, a readily visible, permanent mark or line indicating the maximum allowable solvent level.

(iii) For dip tanks, a freeboard ratio greater than or equal to 0.5.

(iv) For remote-reservoir cleaners, a solvent with a vapor pressure of organic compounds less than 33 mm Hg at 38°C (0.6 psia at 100°F): This provision does not apply to stripping of wood products with any combination of 1,1,1-trichloroethane or methylene chloride.

(v) For cold solvent cleaners employing sprays, spray nozzles which produce continuous liquid flows, not fine atomized nor shower-type sprays.

(vi) For cold solvent cleaners employing solvent with a vapor pressure of organic compounds greater than 33 mm Hg (0.6 psia) at 38°C (100°F) or employing solvent heated above 50°C (122°F).

(A) an internal drainage device, such that parts are enclosed under the cover of the solvent cleaner while draining; and

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

(C) a water cover, provided the solvent is insoluble in and denser than water.

(3) Open-top Vapor Solvent Cleaner and Conveyorized Solvent Cleaner Equipment Requirements: A person shall not operate an open-top vapor solvent cleaner or conveyorized solvent cleaner unless the requirements of Subsection (d)(1) are met and the following are used:

(i) A cover which can be easily operated without disturbing the vapor layer;

(ii) A primary condensing coil situated above the boiling solvent, except for conveyorized cold solvent cleaners;

(iii) All of the following safety devices, except for conveyorized cold solvent cleaners:

(A) a device which shuts off the sump heat if the condenser coolant stops circulating, except for refrigerated condensers;

(B) a device which shuts off the sump heat if the condenser coolant or refrigerant becomes warmer than the designed operating temperature;

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

(D) for solvent cleaners of the spray type, a device which prevents spray pump operation if the solvent vapor-air interface falls below the designed operating level.

(iv) For solvent cleaners employing sprays:

(A) spray nozzles which produce continuous liquid flows, not fine atomized or shower type sprays; or

(B) sprays which are located below the vapor-air interface.

(v) For open-top vapor solvent cleaners with a vapor-air interface area greater than 1 square meter (10.76 square feet), conveyorized vapor solvent cleaners with an vapor-air interface area greater than 2 square meters (21.52 square feet), and conveyorized cold solvent cleaners with a liquid surface area greater than 2 square meters (21.52 square feet).

(A) an automated cover-elevator system which opens only when the dry part is actually entering or exiting the solvent cleaner, except for conveyorized solvent cleaners; or

(B) a freeboard ratio greater than or equal to 0.75 and a powered cover, except for conveyorized solvent cleaners; or

(C) a refrigerated freeboard chiller having a minimum of 500 BTU per hour cooling capacity per foot along the vapor-air interface perimeter or a refrigerated condenser coil having a minimum cooling capacity of 100 percent of the boiling sump heat input rate; or

(D) a carbon adsorption system with ventilation greater than or equal to 15 cubic meters per minute per square meter (50 cubic feet per minute per square foot) of vapor-air interface area and a control efficiency of 90 percent or more by weight of organic compounds ; or

(E) a control system which has a control efficiency at least as effective as any of the above and which is approved by the Air Pollution Control Officer on an annual basis and meets the requirements of Section (e).

(vi) For all conveyorized solvent cleaners, the following:

(A) a drying tunnel, which is an extension from the exit of the conveyorized solvent cleaner to allow more time for the cleaned parts to drain completely, or other means sufficient to prevent cleaned parts from carrying solvent liquid out of the solvent cleaner, and

(B) minimized openings such that entrances and exits shall silhouette work loads with an average clearance between parts and the edge of the solvent cleaner opening less than 10 centimeters or less than 10 percent of the opening width.

(4) Gas-Path Cleaner (Corrosion Control Cart) Requirements: A person shall not operate a gas-path cleaner unless the requirements of Subsection (d)(1) are met and a solvent with a vapor pressure of organic compounds less than 33 mm Hg at 38°C (0.6 psia at 100°F) and greater than 75 percent water by volume or a vapor pressure of organic compounds less than 1 mm HG at 38°C (0.6 psia at 100°F) and greater than 50 percent water by volume is used.

(5) General Operating Requirements: Any person who operates a solvent cleaner shall conform to the following operating requirements.

(i) The solvent cleaner, ventilation systems, and emission control equipment shall be installed and maintained in proper working order. The ventilation systems and emission control equipment shall be properly operating at all times when parts are being cleaned or solvent is being heated in the solvent cleaner.

(ii) There shall be no liquid solvent leaks from any portion of the degreasing equipment.

(iii) Solvent, including waste solvent and distillation residue, shall not be stored or disposed of in a manner that will cause or allow evaporation into the atmosphere.

(iv) Distillation residues shall not contain more than 10 percent solvent by volume after distillation recovery of waste.

(v) Devices designed to cover the solvent shall not be removed except to process work or to perform maintenance.

(vi) Solvent agitation shall be achieved only by means of pump circulation, mechanical mixing, or with ultrasonics. Gas agitation shall not be used.

(vii) For solvent cleaners employing sprays, except gas-path cleaners, the stream pressure shall be low enough to prevent liquid splashing outside the container.

(viii) No porous or absorbent materials, such as cloth, leather, wood, or rope shall be cleaned with solvent. This provision does not apply to stripping of wood products using solvents which are more than 50% by volume of any combination of 1,1,1-trichloroethane and methylene chloride.

(ix) Solvent cleaner operators shall maintain records of the types, amounts, and dates of solvents added to and removed from each solvent cleaner. The records shall be maintained for three years and made available to the Air Pollution Control Officer immediately upon request.

(6) Cold Solvent Cleaner Operating Requirements: Any person who operates a cold solvent cleaner shall conform to requirements of Subsection (d)(5) and the following:

(i) Cleaned parts shall be drained until dripping ceases.

(ii) The solvent cleaner liquid level shall not be above the marked maximum solvent level line.

(iii) For remote-reservoir cleaners, the cover of the solvent reservoir shall be closed at all times except when the reservoir is being cleaned or repaired, and

(iv) For remote-reservoir cleaners, the portion of the solvent cleaner where parts are cleaned shall not be exposed to drafts greater than 40 meters per minute (131 feet per minute).

(7) Open-top Vapor Solvent Cleaner Operating Requirements: Any person who operates an open-top vapor solvent cleaner shall conform to the requirements of Subsection (d)(5) and the following:

(i) Solvent carry-out shall be minimized by all of the following methods:

(A) racking parts for full drainage;

(B) moving parts in and out of the solvent cleaner at a speed less than 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 solvent cleaner until visually dry.

(ii) Solvent shall not be sprayed above the vapor-air interface.

(iii) Solvent cleaner exhaust ventilation systems, if used, shall not exceed 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of solvent cleaner vapor-air interface area, unless necessary to meet OSHA requirements. Comfort ventilation fans shall not be positioned near the solvent cleaner opening in such a way as to disturb the vapor zone. Lip ventilation, located below the cover of the solvent cleaner, if used, shall be turned off when the solvent cleaner is covered.

(iv) Water shall not be visibly detectable in the organic compound phase exiting the water separator, nor shall organic compounds be visibly detectable in the aqueous phase leaving the separator.

(v) Workloads placed in the solvent cleaner shall have an occupied, horizontal cross-sectional area less than one half of the vapor-air interface area.

(vi) During start up, the primary condenser and refrigerated freeboard chiller, if used, shall be turned on either simultaneously or before the sump heater. During shutdown, the sump heater shall be turned off, either simultaneously or before the condenser coolant and refrigerated freeboard chiller are turned off. The solvent cleaner shall be covered whenever the primary condenser is turned off.

(8) Conveyorized Solvent Cleaner Operating Requirements: Any person who operates a conveyorized solvent cleaner shall conform to the requirements of Subsection (d)(5) above and the following:

(i) Solvent carry-out shall be minimized by the following methods:

(A) racking parts for best drainage;

(B) for conveyorized vapor solvent cleaners, maintaining vertical conveyor speed at less than 3.3 meters (11 feet) per minute; and

(C) for conveyorized cold solvent cleaners, draining parts until dripping ceases.

(ii) Solvent cleaner exhaust ventilation systems shall not exceed 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of solvent cleaner open area, unless necessary to meet OSHA requirements. Comfort

ventilation fans shall not be positioned near the solvent cleaner opening in such a way as to disturb the vapor zone.

(iii) Water shall not be visibly detectable in the organic compound phase exiting the water separator, nor shall organic compounds be visibly detectable in the aqueous phase leaving the separator.

(iv) During startup, the primary condenser and refrigerated freeboard chiller, if used, shall be turned on either simultaneously or before the sump heater. During shutdown, the sump heater shall be turned off, either simultaneously or before the condenser coolant and refrigerated freeboard chiller are turned off. The solvent cleaner shall be covered whenever the primary condenser is turned off.

(9) Gas-Path Cleaner (Corrosion Control Cart) Operating Requirements: Any person who operates a gas-path cleaner shall conform to the requirements of Subsection (d)(5) and the following:

(i) Cleaned parts shall be drained until dripping ceases.

(ii) The cover of the solvent reservoir shall be closed at all times except when the reservoir is being cleaned or repaired.

(iii) Solvent cleaning operations shall not be conducted in areas with air flows greater than 135 meters per minute (5 miles per hour).

(e) **ALTERNATIVE CONTROL**

(1) The provisions of Section (d) shall not apply if alternative methods which reduce emissions of organic compounds from the solvent cleaning operations by at least 85 percent by weight are employed, such as:

(i) Venting the organic compound emissions from a solvent cleaning operation through an air pollution control device approved by the Air Pollution Control Officer,

(ii) Reducing the emissions of organic compounds from a solvent cleaning operation through the use of low volatility cleaning materials.

When employing low volatility cleaning materials, the reduction shall be determined by comparing the organic compound emissions which occur when employing the low volatility cleaning materials with the organic compound emissions that occur when employing the organic solvent cleaning material that was in use on or before September 1, 1980. Such demonstration shall be done using methods and procedures approved by the Air Pollution Control Officer.

(2) Any person electing to comply by one or more alternative control measures shall first submit a plan to the Air Pollution Control Officer, for approval, showing how compliance will be achieved. Such plan shall include documentation sufficient to identify and characterize the cleaning materials in use on or before September 1, 1980 and shall include a protocol describing how compliance shall be demonstrated. The protocol shall include methods and procedures approved by the Air Pollution Control Officer.

(3) Any person electing to comply by one or more alternative control measures shall first submit an application for authorization to construct and permit to operate or for modified permit to operate to the Air Pollution Control Officer. Such person shall reimburse the District for all District costs incurred in evaluating an alternative compliance demonstration. The District costs shall be determined using the labor rates specified in Rule 40, Schedule 94.

(4) An alternative control measure subject to the provisions of this section shall be submitted as a Source-Specific Revision to the State Implementation Plan (SIP) for Solvent Metal Cleaning by the USEPA. The Air Pollution Control Officer shall not accept a method as equivalent under this Section unless it has been accepted as a Source-Specific SIP Revision.

SAN DIEGO AIR POLLUTION CONTROL DISTRICT

PROPOSED NEW RULE

Proposed new Rule 67.6.1 to read as follows:

RULE 67.6.1 COLD SOLVENT CLEANING AND STRIPPING OPERATIONS

(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 is not subject to this rule.

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

(5) Rule 66 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, 67.11, or 67.11.1.

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

(iii) Cold solvent cleaning or stripping operations conducted in any cold solvent tank or stripping tank with a liquid surface area of 1 square foot (0.09 square meters) or less, or with a capacity of 1 gallon (3.8 liters) or less.

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

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

(vi) Cold solvent cleaning or stripping operations that exclusively utilize water-based materials with a volatile organic compound (VOC) content of 50 grams per liter (g/l) of material (0.42 pounds per gallon) 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, 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 reservoirs 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) **"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 reservoirs, the height from the bottom of the sink or work area to the top.

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

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

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

(20) **"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.

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

(22) **"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.

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

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

(25) **"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.

(26) **"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.

(28) **"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.

(29) **"Volatile Organic Compounds (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.

(d) **STANDARDS**

(1) VOC Content Requirements for Cold Solvent Cleaning Operations

Except as specified in Subsection (b)(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.

(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.

(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), 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.

(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 airtight/airless 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) **RECORDKEEPING 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**

(1) The VOC content of cleaning materials shall be determined by the South Coast Air Quality Management District (SCAQMD) Method 313 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry), SCAQMD Method 308 (Quantitation of Compounds by Gas Chromatography), or any other test methods approved by the Environmental Protection Agency (EPA), California Air Resources Board (ARB), 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) and in accordance with a protocol approved by the Air Pollution Control Officer. Capture efficiency shall be determined according to EPA Test Method 204. 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 *(12 months after date of adoption)*.

(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 *(6 months after date of adoption)* 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 *(12 months after date of adoption)* 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 *(6 months after date of adoption)* 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 *(12 months after date of adoption)* comply with all applicable rule requirements.

SAN DIEGO AIR POLLUTION CONTROL DISTRICT

PROPOSED NEW RULE

Proposed new Rule 67.6.2 to read as follows:

RULE 67.6.2 VAPOR DEGREASING OPERATIONS

(Adopted & Effective *(date of adoption)*)

(a) APPLICABILITY

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

(2) Rule 66 shall not apply to any vapor degreasing operations.

(b) EXEMPTIONS

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

(i) Vapor degreasing operations that exclusively utilize water-based cleaning materials with a volatile organic compound (VOC) content of 50 grams per liter (g/l) of material (0.42 pounds per gallon) 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, to substantiate this exemption.

(ii) Vapor-phase solder reflow units.

(iii) Vapor degreasing operations conducted in a container with a liquid surface 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.

(7) **"Freeboard Height"** means the distance from the solvent vapor-air interface to the top of the degreaser tank, based on inside tank dimensions.

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

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

(10) **"Liquid Surface Area"** means the area of interface between the liquid solvent available for heating and the air which is contiguous with the outside of the vapor degreaser.

(11) **"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 *(date of adoption)*.

(12) **"Open-top Vapor Degreaser"** means any batch loaded vapor degreaser.

(13) **"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.

(14) **"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.

(15) **"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.

(16) **"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.

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

(18) **"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.

(19) **"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.

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

(21) **"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.

(22) **"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.

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

(24) **"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.

(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 airtight/airless 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) **RECORDKEEPING 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) 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**

(1) The VOC content of cleaning materials shall be determined by the South Coast Air Quality Management District (SCAQMD) Method 313 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry), SCAQMD Method 308 (Quantitation of Compounds by Gas Chromatography), 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 for distillation range of volatile organic liquids, or its most current version,

(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^{o}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 or 25A (40 CFR Part 60, Appendix A) and in accordance with a protocol approved by the Air Pollution Control Officer. Capture efficiency shall be determined according to EPA Test Method 204. 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 *(date of adoption).*

(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 *(6 months after date of adoption)* 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 *(12 months after date of adoption)* 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 *(6 months after date of adoption)* 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 *(12 months after date of adoption)* comply with all applicable rule requirements.