AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

PROPOSED AMENDMED RULE 67.11 – WOOD PRODUCTS COATING OPERATIONS, AND THE REPEAL OF RULE 67.11.1 – LARGE COATING OPERATIONS FOR WOOD PRODUCTS

WORKSHOP REPORT

A workshop notice was mailed to all companies and government agencies in San Diego County that may be subject to proposed amended Rule 67.11 – Wood Products Coating Operations. Notices were also mailed to all Economic Development Corporations and Chambers of Commerce in San Diego County, the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and other interested parties.

The workshop was held on March 30, 2011, and was attended by 11 people. Written comments were also received before and after the workshop. The workshop comments and Air Pollution Control District (District) responses are as follows:

1. WORKSHOP COMMENT

The District should consider amending the definition of "Conversion Varnish" in Subsection (c) (8) to include the topcoat, as well as the accompanying sealer. To ensure optimum adhesion and coating performance, the conversion varnish wood coating finishing system requires a two coating system, the catalyzed sealer and catalyzed topcoat.

DISTRICT RESPONSE

The District agrees. The definition of "Conversion Varnish" has been amended to include the conversion varnish sealer that is applied as part of the conversion varnish wood coating finishing system.

2. WORKSHOP COMMENT

Vinyl sealers impart moisture resistance to finish systems and are frequently used as sealers. They will not be able to comply with the lower VOC content limit of 275 g/L in proposed amended Rule 67.11. The District should add an additional coating category for "Vinyl Sealers", with a VOC content limit of 550 g/L.

DISTRICT RESPONSE

The District recognizes that a higher VOC content vinyl sealer or other coating may be needed in some instances to achieve a desired finish. Therefore, an exemption has been added to the proposed amended rule to allow any wood coating operation to use not more than 20 gallons of

non-compliant coatings per consecutive 12-months, provided that the total amount of non-compliant coatings used at a stationary source does not exceed 20 gallons per consecutive 12-months.

3. WORKSHOP COMMENT

When a coating is used outside of its intended category, what VOC content limit should that coating follow?

DISTRICT RESPONSE

A coating being used outside of the manufacturers' specification will be evaluated by the function it is expected to accomplish. For example, a coating being used as a sealer must comply with the 275 g/L VOC content limit for sealers.

4. WORKSHOP COMMENT

The District should not reduce the VOC content limit from 700 g/L to 480 g/L for low-solids stains, toners or washcoats that are being applied to refinished wood products.

DISTRICT RESPONSE

The District agrees. There are 9 facilities that are refinishing wood products with a total usage of approximately 800 gallons of all coatings per year. The estimated annual emissions from all wood coating refinishing facilities subject to Rule 67.11 in San Diego County are 0.75 tons per year. Therefore, the actual emission reductions achieved by lowering the VOC content limit for low-solids stains, toners or washcoats from 700 g/L to 480 g/L would be negligible.

5. WRITTEN COMMENT

Proposed amended Rule 67.11, Subsection (b)(1)(i), exempts coatings applied using a non-refillable aerosol spray container from complying with the provisions of Section (d). Does this exemption also apply to solvent cleaners applied using a non-refillable handheld aerosol spray container?

DISTRICT RESPONSE

No. Subsection (b)(1)(i) only exempts coatings applied from a non-refillable handheld aerosol spray container. All solvent cleaners must comply with the VOC content limit requirement of 25 g/L of material specified in Subsection (d)(4).

6. WRITTEN COMMENT

Are dimethyl carbonate and propylene carbonate exempt in San Diego County?

DISTRICT RESPONSE

Yes. Dimethyl carbonate and propylene carbonate are exempt compounds and can be found listed in Table 1 (Exempt Compounds) of District Rule 2.

7. WRITTEN COMMENT

Would airless and air assisted airless spray guns meet the coating application equipment standard?

DISTRICT RESPONSE

No. Airless and air assisted airless spray guns have a lower transfer efficiency than the other application methods identified in Subsection (d)(1) of proposed amended Rule 67.11. The transfer efficiency of coating application equipment must be at least equal to that of one of the application methods identified in Subsection (d)(1).

8. WRITTEN COMMENT

The District should include a category for "Pigmented Conversion Varnish" with a VOC content limit of 550 g/L.

DISTRICT RESPONSE

The District disagrees. Including a separate category for pigmented conversion varnish is not necessary. The current definition of "Conversion Varnishes" is broadly defined to encompass pigmented conversion varnish sealers and topcoats.

9. WRITTEN COMMENT

Why are conversion varnishes not listed in the VOC content limits for refinished wood products?

DISTRICT RESPONSE

Prior to the 1997 Rule 67.11 revision, conversion varnishes were considered topcoats with a VOC content limit of 680 g/L. In the 1997 rule revision, a separate new "Conversion Varnishes" category was added for coatings used for New Wood Products, with a more stringent VOC content limit of 550 g/L. The definition of topcoat was amended to exclude conversion

varnishes. Because a conversion varnish was no longer considered a topcoat, conversion varnishes applied to refinished wood products would have to comply with the "Any Other Coatings" category at 420 g/L. That was not the District's intent; therefore, a "Conversion Varnishes" category has been added for Refinished Wood Products with a VOC content limit of 550 g/L.

10. ARB COMMENT

The District should revise Subsection (d)(3), VOC Limits for Refinished Wood Products. The VOC content limit for the "Multi-Colored Coating" category should be lowered from 685 g/L down to 680 g/L, to be consistent with other air districts in California.

DISTRICT RESPONSE

The District agrees. The proposed amended rule has been revised as suggested.

11. ARB COMMENT

The District should revise Subsection (d)(3), VOC Limits for Refinished Wood Products. The VOC content limit for the "Low-Solids Stains, Toners, or Washcoats" category should be lowered from 700 g/L down to 480 g/L, to be consistent with other air districts in California.

DISTRICT RESPONSE

The District disagrees. Please see District Response to Comment 4 above.

12. EPA COMMENT

The District should consider revising Subsection (c)(13), "Flow Coat", by adding "and allow excess to drain off" after "object."

DISTRICT RESPONSE

The District agrees. The proposed amended rule has been revised as suggested.

13. EPA COMMENT

The District should consider revising Subsection (c)(14), "Hand Application Method", to include other methods that may be used but not listed in the definition.

DISTRICT RESPONSE

The District agrees. The proposed amended rule has been revised as suggested.

14. EPA COMMENT

The District should delete Subsection (c)(19), the definition of "Low-Solids Stain." Instead, refer to Rule 2 to be consistent with other definitions defined in this manner.

DISTRICT RESPONSE

The District disagrees. The definition of "low-solids stain" clarifies a coating category contained in the rule and used in wood coating operations. This definition should remain readily accessible to facilities.

15. EPA COMMENT

The District should consider revising Subsection (c)(23), the definition of "Pigmented Coating", by adding that pigmented coatings may be used either as an undercoat or topcoat.

DISTRICT RESPONSE

The District agrees. The proposed amended rule has been revised as suggested.

16. EPA COMMENT

The District should revise Subsection (c)(25), the definition of "Roll Coat", by adding language that describes a method of "moving a substrate underneath a roller applicator".

DISTRICT RESPONSE

The District disagrees. The current definition of "Roll Coat" adequately describes the roller coat method used.

17. EPA COMMENT

The District should consider revising Subsection (c)(28), the definition of "Stripping Material", by adding "inks and adhesives".

DISTRICT RESPONSE

The proposed rule has been revised by adding "adhesives" to the definition of "Stripping Materials". However, "inks" are already included in the definition of "Coating", Subsection (c)(6).

18. EPA COMMENT

The District should delete Subsection (c)(30), the definition of "Touch-up Operation." Instead, refer to Rule 2 to be consistent with other definitions defined in this manner.

DISTRICT RESPONSE

The District disagrees. The definition of "Touch-up Operation" clarifies a type of coating operation that is currently used by facilities. The definition should remain readily accessible to facilities.

19. EPA COMMENT

The District should delete Subsection (c)(34), the definition of "VOC Content per Volume of Material." Instead, refer to Rule 2 to be consistent with other definitions defined in this manner.

DISTRICT RESPONSE

The District disagrees. This definition was included to clarify that the VOC content of low-solids coatings, cleaning and stripping materials should be calculated per unit of volume of material, unlike the VOC content of high solid coatings.

20. EPA COMMENT

In Subsection (d)(1)(vii), alternate coating application methods should be approved by the APCO and the EPA.

DISTRICT RESPONSE

The District disagrees. The current language is consistent with other District rules, as well as with requirements of other California air districts.

21. EPA COMMENT

The heading for Subsection (d)(2) should read, "VOC Limits for Coating for New Wood Products", and for Subsection (d)(3) should read, "VOC Limits for Coating for Refinished Wood Products" to further clarify the subject of the two tables.

DISTRICT RESPONSE

The District has added language to clarify the headings of both subsections.

22. EPA COMMENT

The District should lower the VOC content limits in Subsection (d)(2)(i) for "High-Solids Stains" from 350 g/L to 240 g/L, to be consistent with SJVAPCD Rule 4606.

DISTRICT RESPONSE

The District disagrees. The proposed VOC content limit for "High-Solids Stains" at 350 g/L is consistent with the majority of California air districts, including SCAQMD Rule 1136. High-Solids Stains meeting the 350 g/L limit are readily available in Southern California.

23. EPA COMMENT

The District should lower the VOC content limits in Subsection (d)(2)(i) for "Inks" from 500 g/L to 250 g/L, to be consistent with BAAQMD flat wood coating rule, Rule 8-23.

DISTRICT RESPONSE

The District disagrees. The District's 500 g/L VOC content limit for "Inks" is consistent with the requirements found in the majority of California air districts' wood coating rules. Furthermore, the District does not have flat wood coating operations; therefore, the recommended limit does not apply.

24. EPA COMMENT

The District should lower the VOC content limits in Subsection (d)(3)(ii) for Refinished Wood Products for "Low-Solids Stains, Toners or Washcoats" from 700 g/L to 480 g/L, to be consistent with SMAQMD Rule 463.

DISTRICT RESPONSE

The District disagrees. Please see District Response to Comment 4 above.

25. EPA COMMENT

The requirement in Subsection (f)(1)(iii) to, "Maintain monthly or daily records...," is vague and may undermine compliance. We suggest that daily recordkeeping be required if monthly VOC content limits exceed those in Subsections (d)(2), (3), (4), (5) and (6), such as required in SMAQMD Rule 463, Section 501.2. This is stated in Subsection (f)(2)(ii), but this applies only to situations using control equipment. In addition, EPA's Little Blue Book (August 21, 2001, page 11) recommends that rules which allow recordkeeping less frequently than daily should specify that the violations of the weekly requirement are presumed to be separate violations for each day within the week.

DISTRICT RESPONSE

The District disagrees. The current language in Rule 67.11, Subsection (f)(1)(iii), is consistent with language in other SDAPCD rules, including those rules that were recently adopted into the California State Implementation Plan. Furthermore, the proposal is consistent with EPA's Little Blue Book (August 21, 2001, page 11, #4), which states that Rules that establish VOC content limits on materials (e.g., coating), but do not establish emission or use caps, can allow monthly recordkeeping for sources using only compliant materials. In addition, a facility's permit to operate will often require daily record keeping if the facility is subject to New Source Review.

26. EPA COMMENT

All references to EPA test methods in Subsections (g)(1), (2) and (8) should have the complete title and the most recent date as listed in http://www.epa.gov/ttn/emc/promgate.html.

DISTRICT RESPONSE

The District agrees. The proposed amended rule has been revised as suggested.

27. EPA COMMENT

Regarding Subsections (g)(1), (2), (4), (6) and (8), other district test methods and guidelines should have the date of the EPA-approved version, which is not the date it was "approved by the EPA". The statement "approved by the EPA" should be removed. Refer to http://www.arb.ca.gov/fcaa/tv/tvinfo/accp_mth.htm for these approved version dates. In Subsection (g) (8) the guideline referenced should be SCAQMD CE - Guideline for Determination of VOC Capture Efficiency, dated May, 1995.

DISTRICT RESPONSE

The District agrees. The proposed amended rule has been revised as suggested.

28. EPA COMMENT

All ASTM test methods listed in Subsections (g)(3) and (7) should have the complete title and the EPA-approved version date, as listed in 40 CFR 60.1, not "or its most current version." The most recent version year, shown in parenthesis, should be removed. The correct approved ASTM test procedures are: D5403-93, D3792-91, D4017-96a and D4457-91.

DISTRICT RESPONSE

The District disagrees. The current ASTM test method references in proposed amended Rule 67.11, Section (g), are consistent with language in other District rules, including those rules that were recently adopted into the California State Implementation Plan. Furthermore, coating Manufacturer's and Testing Laboratories that perform ASTM test methods will only use the most current ASTM test method. The District does not want to reference a specific EPA approval date and have the rule be outdated once the EPA approval date changes.

29. EPA COMMENT

In Subsection (g)(7), the correct title for the EPA-approved district procedure is SD 1, Procedures for Estimating the Vapor Pressure of VOC Mixtures, dated June 20, 1990.

DISTRICT RESPONSE

The District agrees. The proposed amended rule has been revised as suggested.

AD:jl
08/01/11

RULE 67.11 WOOD PRODUCTS COATING OPERATIONS

(Adopted & Effective 3/14/89; Rev. Effective 8/13/97;
Rev. Effective 9/25/02; Rev. Adopted (*date of adoption*) & Effective (*1 year after date of adoption)*)

(a) **APPLICABILITY**

(1) Except as otherwise provided in Section (b), this rule is applicable to all wood products coating operations.

(2) Any coating operation subject to the requirements of Rules 67.0 or 67.18 shall not be subject to this rule.

(3) Rule 66.1 shall not apply to any wood products coating operation which is subject to or exempt from this rule.

(b) **EXEMPTIONS**

(1) The provisions of Sections (d), (e) and (f) shall not apply to the following:

(i) Coatings applied using non-refillable handheld aerosol spray containers.

(ii) Any wood products coating operation at a ~~A~~ stationary source where ~~which applies less than~~ 20 ~~500~~ gallons or less of coatings are applied ~~to wood products in every~~ per consecutive ~~twelve~~ 12-month period. ~~It shall be the responsibility of any person claiming this exemption to maintain monthly purchase and monthly or daily usage records. These records shall be maintained onsite for three years and made available to the District upon request.~~ The volume of materials applied using non-refillable handheld aerosol spray containers shall not be included when determining the applicability of this exemption.

(iii) Any wood products coating operation at a stationary source where the VOC emissions from such operation are 150 pounds or less per consecutive 12-month period, excluding surface preparation, cleanup, and stripping materials. The volume or VOC content of materials applied using non-refillable handheld aerosol

spray containers shall not be included when determining the applicability of this exemption.

~~(ii) Coatings applied using non-refillable handheld aerosol spray containers.~~

(iv) Any wood products coating operation where not more than 20 gallons of non-complying coatings are used per consecutive 12-months, provided that the total amount of non-complying coatings used at the stationary source does not exceed 20 gallons in any consecutive 12-month period.

It is the responsibility of any person claiming an exemption pursuant to Subsections (b)(1)(ii), (b)(1)(iii) and (b)(1)(iv~~ii~~) to maintain monthly purchase and monthly or daily usage records and all records necessary to calculate VOC emissions. These records shall be maintained onsite for three years and made available to the District upon request.

(2) The provisions of Subsection (d)(1) shall not apply to the following:

(i) Any coatings ~~when~~ applied by ~~the use of~~ air brushes with a ~~coating~~ capacity of two ounces (59.1 ml) or less.

(ii) Any coatings ~~when~~ applied during touch-up operations.

(3) The provisions of Subsections (d)(2)~~,~~ and (d)(3) ~~and (d)(34)~~ shall not apply to coatings applied to wooden musical instruments.

(c) **DEFINITIONS**

For the purposes of this rule the following definitions shall apply:

(1) **"Adhesive"** means a material applied to a wood surface for the sole purpose of bonding the wood surface with another wood or non-wood surface by attachment.

(2) "**Application Equipment**" means equipment used to apply coatings, inks, and adhesives, including, but not limited to spray guns, rollers, and brushes.

(~~2~~3) **"Binder"** means a non-volatile polymeric organic material, such as a resin, which forms a surface film during coating applications.

(4) "**Cleaning Material**" means any VOC containing substance which is liquid at atmospheric pressure and ambient temperature and which is used as a cleaning agent, surface preparation agent, or for other similar purposes.

~~(3) **"Clear Sealer"** means a coating which contains binders, but not opaque pigments, and is specifically formulated to seal wood surfaces prior to the application of subsequent coatings.~~

(~~4~~5) **"Clear Topcoat"** means a final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film. Clear topcoats include clear lacquers and varnishes but exclude conversion varnishes.

(~~5~~6) **"Coating"** means a VOC containing material ~~containing more than 20 grams per liter of VOC as applied, less water and exempt compounds~~, which can be applied as a thin layer to a substrate, and which either dries or cures to form a continuous solid film or impregnates a substrate for protection, decorative, or functional purposes. Such materials include, but are not limited to paints, varnishes, sealers, lacquers, inks, fillers, washcoats, toners, and stains but exclude adhesives.

(~~6~~7) **"Coating Operation"** means all steps involved in the application, drying and/or curing of surface coatings, including touch-up operations, and associated stripping, surface preparation and coating application equipment cleaning.

(~~7~~8) **"Conversion Varnish"** means a topcoat or sealer which is comprised of an alkyd or other resin blended with amino resin in a homogeneous liquid that ~~(alkyd-amino resin)~~, ~~which~~ when acid catalyzed and applied, hardens by evaporation and polymerization.

(~~8~~9) **"Dip Coat"** means a coating application method accomplished by dipping an object into the coating material.

(~~9~~10) **"Electrostatic Spray"** means a coating application method accomplished by charging atomized paint particles for deposition by electrostatic attraction.

(~~10~~11) **"Exempt Compound"** means the same as defined in Rule 2.

(~~11~~12) **"Filler"** means a material used to fill in cracks, grains and imperfections of wood before applying a coating.

(~~12~~13) **"Flow Coat"** means a coating application method accomplished by flowing a stream of coating over an object and draining off any excess coating.

~~(13) **"Glaze Stain"** means a semi-transparent tinted coating applied on a previously coated surface to produce a decorative effect.~~

(14) **"Hand Application Method"** means a coating application method accomplished by applying a coating by manually held, non-mechanically operated equipment. Such equipment includes, but is not limited to, paintbrushes, hand rollers, rags and sponges.

(15) **"High-Solids Stain"** means a stain containing more than one pound of solids per gallon of material.

(16) **"High-Volume Low-Pressure (HVLP) Spray"** means a coating application method using a spray applicator and ~~which uses~~ pressurized air which is designed to be operated and which is operated at an atomizing ~~at a permanent~~ pressure between 0.1 and 10.0 psig, ~~not to exceed 10.0 psig,~~ measured dynamically at the center of the applicator's air cap and the applicator's air horns ~~of the coating application system~~.

(17) **"Ink"** means a liquid that contains dyes and/or colorants and is used to make markings, but not to protect surfaces.

(18) **"Low-Solids Coating"** means a coating containing one pound of solids or less per gallon of material~~, as supplied~~.

(19) **"Low-Solids Stain"** means a stain containing one pound of solids or less per gallon of material.

(20) **"Medium Density Fiberboard (MDF) Coating"** means the initial coating which is applied directly to the surface of MDF. ~~, which~~ MDF is a wood product composed of tightly compressed wood fibers bonded with resins, and has a density greater than 45 pounds per cubic foot.

(21) **"Multi-Colored Coating"** means a coating which exhibits more than one color when applied and which is packaged in a single container and applied in a single coat.

(22) **"New Wood Product"** means a wood product which has not been previously coated. A wood product from which coatings have been removed to repair flaws in initial coating applications is a new wood product.

(23) **"Pigmented Coating"** means an opaque coating containing binders and colored pigments, and formulated to hide the wood surfaces either as an undercoat or topcoat.

~~(24) **"Pigmented Primer, Sealer, and Undercoat"** means opaque coatings which contain binders and colored pigments formulated to hide the wood surface that are applied prior to the topcoat to provide a firm bond, level the wood product surface, or seal the wood product surface.~~

~~(25) **"Pigmented Topcoat"** means a final opaque coating which contains binders and colored pigments, and is specifically formulated to hide the wood surface and form a solid protective film.~~

(~~26~~24) **"Refinished Wood Product"** means a post-consumer wood product which has had some or all of the coatings removed, and to which new coatings are applied in order to preserve or restore the post-consumer wood product to its original condition. A wood product from which coatings have been removed to repair flaws in initial coatings applications is not a refinished wood product.

(~~27~~25) **"Roll Coat"** means a coating application method accomplished by rolling a coating onto a flat surface using a roll applicator.

(~~28~~26) **"Sealer"** means a coating which contains binders and which seals wood surfaces prior to the application of subsequent coatings.

(~~29~~27) **"Stationary Source"** means the same as defined in Rule 2.

(~~30~~28) **"~~Stripper~~ Stripping Material"** means a liquid containing VOC and applied to remove a coating, ~~or~~ coating residue or adhesives.

(~~31~~29) **"Toner"** means a coating which contains not more than one pound of binders and dyes or pigments per gallon of ~~coating~~ material and which is used to add tint to a coated surface.

(3230) **"Touch-up Operation"** means the portion of a coating operation which is incidental to the main coating process but necessary to cover minor imperfections or minor mechanical damage incurred prior to intended use, or to achieve coverage as required.

(3331) **"Transfer Efficiency"** means the ratio of the weight of coating solids adhering to the part being coated to the weight of coating solids used in the application process expressed as a percentage.

~~(34) **"Uncontrolled VOC Emissions"** means VOC emissions from a wood products coating operation, which occurred or would have occurred in the absence of any air pollution control equipment added or process modification made on or after September 25, 2002.~~

(3532) **"Volatile Organic Compound" (VOC)** means the same as defined in Rule 2.

~~(36) **"VOC Content Per Pound of Coating Solids"** means the weight of VOC per weight of coating solids and can be calculated by the following equation:~~

$$Cs = \frac{Ws - Ww - Wes}{W_r}$$

~~where:~~

~~C_s = VOC content per pound of coating solids~~
~~W_s = Weight of volatile compounds, in pounds~~
~~W_w = Weight of water, in pounds~~
~~W_{es} = Weight of exempt compounds, in pounds~~
~~W_r = Weight of coating solids, in pounds~~

(3733) **"VOC Content Per Volume of Coatings, Less Water and Exempt Compounds"** means the same as defined in Rule 2.

(3834) **"VOC Content Per Volume of Material"** means the weight of VOC per volume of low-solids coating, cleaning or stripping material and is calculated by the equation provided ~~same as defined~~ in Rule 2.

(3935) **"Washcoat"** means a low-solids coating containing not more than one pound of solids per gallon of material, which is used to seal wood surfaces, prevent undesired staining and control penetration. A washcoat may also be used to provide a barrier coat when paper laminates are applied to the wood surface, or when glazes are applied during the coating operation.

(~~40~~36) **"Wood Products"** means any objects that are made of or primarily fabricated with solid wood, wood composition, bamboo and/or rattan, including, but not limited to furnishings, art objects, tables, chairs, beds, sofas, ~~and~~ shutters, and cabinets. ~~which are not permanently attached to stationary structures at the time of coating.~~

(d) **STANDARDS**

(1) Coating Application Equipment

Except as provided in Subsection (b)(2), no coatings shall be applied unless one of the following coating application methods is used:

(i) Hand application method; or

(ii) Dip coat; or

(iii) Roll coat; or

(iv) Flow coat; or

(v) Electrostatic spray; or

(vi) High-volume low-pressure (HVLP) spray. Facilities using an HVLP spray gun shall have available on site pressure gauges in proper operating condition to measure the air cap pressure or have available manufacturer's technical information regarding the correlation between the handle air inlet pressure and the air cap pressure. If the correlation option is used to demonstrate compliance, a handle air inlet pressure gauge will be required on site in proper operating condition to measure the handle air inlet pressure; or

(vii) Other coating application methods that are demonstrated to have a transfer efficiency at least equal to one of the above application methods, and which are used in such a manner that the operating parameters under which they were demonstrated to achieve such transfer efficiency ~~tested~~ are permanent features of the method. Such coating application methods shall be approved in writing by the Air Pollution Control Officer prior to use.

(2) VOC Coating Limits for New Wood Products

~~(i) Except as provided in Subsection (d)(2)(ii), a person shall not apply any coating to a new wood product with a VOC content in excess of the following limits expressed as either grams of VOC per liter of coating (g/L) or pounds of VOC per gallon of coating (lb/gal), as applied, less water and exempt compounds:~~

~~CATEGORY~~	~~VOC LIMITS~~	
	~~g/L~~	~~lb/gal~~
~~Clear Topcoats~~	~~680~~	~~5.7~~
~~Conversion Varnishes~~	~~550~~	~~4.6~~
~~Fillers~~	~~500~~	~~4.2~~
~~High-Solids Stains~~	~~700~~	~~5.8~~
~~Inks~~	~~500~~	~~4.2~~
~~Medium Density Fiberboard (MDF) Coatings~~	~~680~~	~~5.7~~
~~Multi-Colored Coatings~~	~~685~~	~~5.7~~
~~Pigmented Coatings~~	~~600~~	~~5.0~~
~~Sealers~~	~~680~~	~~5.7~~
~~Any Other Coatings~~	~~420~~	~~3.5~~

~~(ii) A person shall not apply the following low-solids coatings to a new wood product with a VOC content in excess of the following limit expressed as either grams of VOC per liter of material (g/L) or pounds of VOC per gallon of material (lb/gal), as applied:~~

~~CATEGORY~~	~~VOC LIMITS~~	
	~~g/L~~	~~lb/gal~~
~~Low-Solids Stains, Toners or Washcoats~~	~~700~~	~~5.8~~
~~Any Other Low-Solids Coatings~~	~~480~~	~~4.0~~

(i~~i~~i) Except as provided in Subsection (d)(2)(ii~~v~~) below~~, on and after July 1, 2005~~, a person shall not apply any coating to a new wood product with a VOC content in excess of the following limits expressed as either grams of VOC per liter of coating (g/L) or pounds of VOC per gallon of coating (lb/gal), as applied, less water and exempt compounds:

CATEGORY	VOC LIMITS	
	g/L	lb/gal
Clear Topcoats	275	2.3
Conversion Varnishes	550	4.6
Fillers	275~~500~~	2.3~~4.2~~
High-Solids Stains	350~~550~~	2.9~~4.6~~

Inks	500	4.2
Medium Density Fiberboard (MDF) Coatings	550	4.6
Multi-Colored Coatings	275~~685~~	2.3~~5.7~~
Pigmented Coatings	275	2.3
Sealers	275~~550~~	2.3~~4.6~~
Any Other Coatings	275	2.3

(ii~~v~~) ~~On and after July 1, 2005, a~~ A person shall not apply ~~the following~~ a low-solids coating~~s~~, including toners and washcoats, to a new wood product with a VOC content in excess of ~~the following limit expressed as either~~ 120 grams of VOC per liter of material ~~(g/L)~~ or 1.0 pound~~s~~ of VOC per gallon of material ~~(lb/gal)~~, as applied.~~:~~

~~CATEGORY~~	~~VOC LIMITS~~	
	~~g/L~~	~~lb/gal~~
~~Low-Solids Stains, Toners or Washcoats~~	~~480~~	~~4.0~~
~~Any Other Low-Solids Coatings~~	~~480~~	~~4.0~~

The requirements of Subsection (d)(2) may be met using an Alternative Emission Control Plan (AECP) that has been approved pursuant to Rule 67.1.

(3) VOC Coating Limits for Refinished Wood Products

(i) Except as provided in Subsection (d)(3)(ii) below, a person shall not apply any coating to a refinished wood product with a VOC content in excess of the following limits expressed as either grams of VOC per liter of coating (g/L) or pounds of VOC per gallon of coating (lb/gal), as applied, less water and exempt compounds:

CATEGORY	VOC LIMITS	
	g/L	lb/gal
Clear Topcoats	680	5.7
Conversion Varnishes	550	4.6
Fillers	500	4.2
High-Solids Stains	700	5.8
Inks	500	4.2
Medium Density Fiberboard (MDF) Coatings	680	5.7
Multi-Colored Coatings	680~~685~~	5.7
Pigmented Coatings	600	5.0

Sealers	680	5.7
Any Other Coatings	420	3.5

(ii) A person shall not apply ~~the following~~ low-solids coatings to a refinished wood product with a VOC content in excess of the following limits expressed as either grams of VOC per liter of material (g/L) or pounds of VOC per gallon of material (lb/gal), as applied:

CATEGORY	VOC LIMITS	
	g/L	lb/gal
Low-Solids Stains, Toners or Washcoats	700	5.8
Any Other Low-Solids Coatings	480	4.0

The requirements of Subsection (d)(3) may be met using an Alternative Emission Control Plan (AECP) that has been approved pursuant to Rule 67.1.

~~(4) VOC Limits for Large Coating Operations for New Wood Products~~

~~The requirements of this Subsection shall apply to a stationary source where the combined uncontrolled emissions of VOC from all wood products coating operations, are greater than or equal to 25 tons in a calendar year.~~

~~(i) Except as provided in Subsection (d)(4)(ii) and (iii), a person shall not apply any coating to a new wood product with a VOC content in excess of the following limits, expressed as either grams of VOC per liter of coating (g/L), or pounds of VOC per gallon of material (lb/gal), as applied, less water and exempt compounds, or pounds of VOC per pound of solids (lb/lb), as applied:~~

~~CATEGORY~~	~~VOC LIMITS~~		
	~~g/L~~	~~lb/gal~~	~~lb/lb~~
~~Clear Sealers~~	~~550~~	~~4.6~~	~~1.39~~
~~Clear Topcoats~~	~~550~~	~~4.6~~	~~1.37~~
~~Conversion Varnishes~~	~~550~~	~~4.6~~	~~1.37~~
~~Fillers~~	~~500~~	~~4.2~~	~~0.66~~
~~High-Solid Stains~~	~~550~~	~~4.6~~	~~1.23~~
~~Inks~~	~~500~~	~~4.2~~	~~0.96~~
~~Medium Density Fiberboard (MDF) Coatings~~	~~635~~	~~5.3~~	~~1.90~~
~~Multi-Colored Coatings~~	~~685~~	~~5.7~~	~~2.60~~
~~Pigmented Primers, Sealers & Undercoats~~	~~550~~	~~4.6~~	~~1.06~~
~~Pigmented Topcoats~~	~~550~~	~~4.6~~	~~1.10~~
~~Any Other Coatings~~	~~420~~	~~3.5~~	~~0.51~~

~~If a person elects to use a coating that complies with a VOC limit expressed in pounds of VOC per pound of solids, the coating's VOC content, as applied, shall not exceed the VOC limit expressed in grams per liter or pounds per gallon specified for that coating category in Subsection (d)(2)(i).~~

~~(ii) A person may add up to 10% by volume of VOC to a topcoat, primer, sealer, or undercoat that contains acetone, if at the time of application the relative humidity is greater than 70% and the temperature is below 65° F, provided that:~~

~~(A) The coating is not applied during a period from April 1 to October 31 of any year; and~~

~~(B) Prior to the addition of VOC, the coating does not contain more than 550 grams of VOC per liter of coating, less water and exempt compounds; and~~

~~(C) After the addition of VOC, the coating's VOC content, as applied, does not exceed the VOC limit specified for that coating category in Subsection (d)(2)(i).~~

~~(iii) A person shall not apply the following coatings to a new wood product with a VOC content in excess of the following limits expressed as either grams of VOC per liter of material or pounds of VOC per gallon of material, as applied:~~

~~CATEGORY~~	~~VOC LIMITS~~	
	~~g/L~~	~~lb/gal~~
~~Low-Solids Stains, Toners, and Washcoats~~	~~480~~	~~4.0~~
~~Any Other Low-Solids Coatings~~	~~480~~	~~4.0~~

~~(iv) On or after July 1, 2005, a person shall not apply any coating to a new wood product with a VOC content in excess of the limits specified in (d)(2)(iii) and (d)(2)(iv).~~

~~The requirements of Subsection (d)(4) may be met using an Alternative Emission Control Plan (AECP) that has been approved pursuant to Rule 67.1.~~

(~~5~~4) Surface Preparation ~~and Stripping~~ Materials

~~Except as provided in Subsection (d)(6), a~~A person shall not use VOC containing materials for surface preparation ~~or stripping~~ unless~~: (i)T~~the material contains 25 ~~200~~ grams or less of VOC per liter of material.~~; or~~

~~(ii) The material has an initial boiling point of 190°C (374°F) or greater; or~~

~~(iii) The material has a total VOC vapor pressure of 20 mm Hg or less, at 20°C (68°F).~~

(5) Stripping Materials

A person shall not use VOC containing materials for stripping unless:

(i) The material contains 200 grams or less of VOC per liter of material; or

(ii) The material has a total VOC vapor pressure of 2 mm Hg or less, at 20°C (68°F).

(6) Cleaning of Application Equipment

A person shall not use VOC containing materials for the cleaning of coating application equipment used in operations subject to this rule unless:

(i) The cleaning material contains 25 ~~200~~ grams or less of VOC per liter of material; or

~~(ii) The cleaning material has an initial boiling point of 190° C (374°F) or greater; or~~

~~(iii) The cleaning material has a total VOC vapor pressure of 20 mm Hg or less, at 20°C (68°F); or~~

(~~iv~~ii) The cleaning material is flushed or rinsed through the application equipment in a contained manner that will minimize evaporation into the atmosphere; or

(~~v~~iii) The application equipment or equipment parts are cleaned in a container which is open only when being accessed for adding, cleaning, or removing application equipment or when cleaning material is being added, provided the cleaned equipment or equipment parts are drained to the container until dripping ceases; or

(~~vi~~iv) A system is used that totally encloses the component parts being cleaned during the washing, rinsing, and draining processes.~~; or~~

~~(vii) Other application equipment cleaning methods that are demonstrated to be as effective as any of the equipment described above in minimizing the emissions of VOC to the atmosphere, provided that the device has been tested and approved by the Air Pollution Control Officer prior to use.~~

(7) No person shall require for use or specify the application of a coating subject to this rule if such use or application results in a violation of this rule. This prohibition

shall apply to all written or oral contracts under the terms of which any coating is applied to any wood product at any location within San Diego County.

(8) Spray application equipment shall not be used to dispose of waste coatings or solvents into the air.

(e) **CONTROL EQUIPMENT**

(1) In lieu of complying with the provisions of Subsections (d)(2), (d)(3), (d)(4), (d)(5) and/or (d)(6) of this rule, an owner/operator ~~person~~ may use an air pollution control system which:

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

(ii) Includes an emission collection system which captures ~~organic gaseous emissions , including emissions associated with applicable coating, equipment cleaning, and surface preparation operations,~~ and transports ~~the captured~~ VOC emissions generated by wood products coating operations to an air pollution control device; and

(iii) Has a combined VOC emissions capture and control device efficiency of at least 85% by weight.~~; and~~

~~(iv) For coating operations subject to Subsection (d)(4), has a continuous monitoring system installed, operated, calibrated and maintained, as approved by the Air Pollution Control Officer. The continuous monitoring system shall monitor and record all key system operating parameters necessary to ensure compliance with Subsection (e)(1)(iii) above at least every 15 clock minutes or a shorter period of time as determined necessary by the Air Pollution Control Officer. Compliance with (e)(1)(iii) may be determined by VOC emissions source testing and/or evaluating continuous monitoring data.~~

(2) A person electing to use control equipment pursuant to Subsection ~~Section~~ (e)(1) shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance plan for the proposed emission control device and emission 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 plan shall:

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(1)(iii), such as temperature, pressure, and/or flow rate; and

(ii) Include proposed inspection schedules, anticipated ongoing maintenance, and proposed record keeping practices regarding the key system operating parameters.

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

(f) **RECORD ~~ ~~KEEPING REQUIREMENTS**

~~All records shall be retained onsite for at least three years and shall be made available to the District upon request. All records for a large coating operation subject to the requirements of Subsection (d)(4) shall be retained onsite for at least five years.~~

(1) Any person conducting operations subject to ~~the provisions of Subsections (d)(2), (d)(3), (d)(4), (d)(5) and/or (d)(6) of~~ this rule shall maintain records in accordance with the following:

(i) Maintain a current list of coatings, ~~strippers~~ and stripping, surface preparation and cleaning materials in use which provides all of the VOC data necessary to evaluate compliance, including, but not limited to:

(A) Manufacturer's name and identification for each coating or coating component for multi-component coatings (~~this includes any components~~ such as bases, catalysts, thinners or reducers, when supplied in separate containers), ~~stripper~~ and stripping, surface preparation and cleaning material; and

~~(B) Mix ratio of components; and~~

(~~C~~B) For coatings, other than low-solids coatings, the VOC content expressed in ~~either~~ grams per liter (or lbs/gal), as applied, less water and exempt compounds; and mix ratio of components, if applicable~~, pounds per gallon, as applied, less water and exempt compounds, or pounds per pound of~~

~~solids; vapor pressure,; and/or initial boiling point, as applicable, for each coating, or coating component for multi-component coatings, stripper, surface preparation and cleaning material~~; and

(C) For surface preparation, cleaning and stripping materials or for low-solids coatings, the VOC content expressed in grams per liter (or lbs/gal) of material, as used; and density, mix ratio of components and/or vapor pressure, if applicable.

~~(D) For each coating or coating component that contains VOCs and water or exempt compounds and that is used in a mixture with other VOC containing materials or is a low-solids stain, toner, washcoat, or other low-solids coating, the weight of VOC per volume of material expressed in either grams per liter or pounds per gallon, volume percent water and exempt compounds.; and~~

~~(E) Other information that the Air Pollution Control Officer finds is necessary to determine compliance with the VOC content standards of Subsections (d)(2), (d)(3), or (d)(4) of this rule.~~

(ii) Maintain current documentation to demonstrate applicability of any coating category pursuant to Subsection (d)(2)~~,~~ or (d)(3)~~, or (d)(4)~~ of this rule.

(iii) ~~At a minimum, m~~Maintain monthly or daily records of the amount of each coating or each coating component for multi-component coatings used.

(iv) ~~At a minimum, m~~Maintain monthly inventory, purchasing or dispensing records of the amount of each ~~stripper~~ stripping, surface preparation and cleaning material used.

(v) Maintain records of the dates and amounts of material added to coating dip tanks as applicable.

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

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

(ii) For all coatings, ~~strippers~~ and stripping, surface preparation and/or cleaning materials not in compliance with Subsections (d)(2), (d)(3), (d)(4), (d)(5), or (d)(6) of this rule, maintain daily records of the amount of each coating or each coating component for multi-component coatings, ~~stripper~~ and stripping, surface preparation and cleaning material used; and

(iii) Maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan. Such records shall be sufficient to document continuous compliance with Subsection (e)(1)(iii) during periods of emission producing activities.

(3) All records shall be retained onsite for at least three years and 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 this rule.

(1) Measurements of transfer efficiency pursuant to Subsection (d)(1)(vii) of this rule shall be conducted in accordance with the South Coast Air Quality Management District (SCAQMD) "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," ~~approved by the Environmental Protection Agency (EPA) on~~ May 24, 1989. The equivalency of coating application equipment pursuant to Subsection (d)(1)(vii) shall be determined by the SCAQMD "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns," ~~dated~~ September 26, 2002.

(2) The VOC content of coatings containing more than 50 grams of VOC per liter shall be determined by the Environmental Protection Agency (EPA) Reference Method 24 (40 CFR Part 60, Appendix A) (Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings), ~~dated~~

September 11, 1995, or by the SCAQMD Method 304-91 (Determination of Volatile Organic Compounds in Various Materials), ~~approved by EPA on~~ February ~~1,~~ 1996.

(3) Measurement of the VOC content of ultraviolet radiation-cured coatings subject to Subsections (d)(2) or (d)(3) shall be conducted in accordance with ASTM Standard Test Method D5403-93(2007) (Standard Test Methods for Volatile Content of Radiation Curable Materials), or its most current version. Measurement of the water content and exempt compound content, if applicable, shall be conducted and reported in accordance with ASTM Standard Test Methods D3792-05(2009), D4017-02(2008)e1 and D4457-02(2008), or their most current versions.

(4) The VOC content of surface preparation, cleaning or stripping materials containing 50 grams of VOC per liter or less shall be determined by the SCAQMD Method 313-91 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry), ~~approved by EPA in July 1991~~ June 1993, or by the SCAQMD Method 308-91 (Quantitation of Compounds by Gas Chromatography), ~~approved by EPA in~~ February 1993.

(5) The content of methyl acetate, acetone and parachlorobenzotrifluoride shall be determined in accordance with the ASTM Standard Test Method D6133-02(2008) (Standard Test Method for Acetone, p-Chlorobenzotrifluoride, Methyl Acetate or t-Butyl Acetate Content of Solventborne and Waterborne Paints, Coatings, Resins, and Raw Materials by Direct Injection Into a Gas Chromatograph), or its most current version.

(6) Measurements of exempt compound content, other than determined in accordance with Subsection (g)(5), shall be conducted in accordance with the SCAQMD Test Method 303-91 (Determination of Exempt Compounds), ~~approved by EPA in~~ August 1996.

(7) Calculation of total VOC vapor pressure for materials subject to Subsection (d)(5) of this rule shall be conducted in accordance with the District's "SD 1, Procedures

for Estimating the Vapor Pressure of VOC Mixtures," dated June 20, 1990. If the vapor pressure of the liquid mixture, as calculated by this procedure, exceeds the limits specified in Subsection (d)(5), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-10~~97(2007)~~ (Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope), or its most current version.

(8) The overall control efficiency of air pollution control equipment operated pursuant to Subsection (e)(1)(iii) 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 Reference Methods 25A and/or 18 (40 CFR Part 60, Appendix A) and in accordance with a protocol approved by the Air Pollution Control Officer. Capture efficiency of an emission control system shall be determined according to EPA Test Methods 204 and 204A through 204F (51 CFR Appendix M), as applicable, and technical document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Subsequent to the initial compliance demonstration period, appropriate key system operating parameters as approved by the Air Pollution Control Officer may be used as indicators of the performance of the emission control system.

(9) Other test methods which are determined to be equivalent to the test methods specified in this rule and approved, in writing, by the Air Pollution Control Officer, California Air Resources Board, and EPA may be used in place of the test methods specified in this rule.

~~(1) Perfluorocarbon (PFC) compounds shall be assumed to be absent from a coating, cleaning, or surface preparation material subject to this rule unless a manufacturer of the material or a facility operator identifies the specific individual compound(s) and the amount(s) present in the material and provides an EPA and Air Resources Board approved test method which can be used to quantify the specific compounds.~~

~~(2) Measurements of transfer efficiency subject to Subsection (d)(1)(vii) of this rule shall be conducted in accordance with the South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," as it exists on September 25, 2002.~~

~~(3) Measurement of the VOC content of coatings, surface preparation and cleaning materials subject to Subsections (d)(2), (d)(3), (d)(4), (d)(5)(i), or (d)(6)(i) of this rule shall be conducted in accordance with EPA Test Method 24 (40 CFR 60, Appendix A).~~

~~(4) Measurement of the VOC content of ultraviolet radiation-cured coatings subject to Subsections (d)(2), (d)(3), or (d)(4) of this rule shall be conducted in accordance with ASTM Standard Test Method D5403-93 (1998), or its most current version. Measurement of the water content and exempt solvent content, if applicable, shall be conducted and reported in accordance with ASTM Standard Test Methods D 3792-99, D 4017-02 and D 4457-02 , or their most current versions.~~

~~(5) Measurement of the initial boiling point of cleaning and surface preparation materials subject to Subsection (d)(5)(ii) or (d)(6)(ii) of this rule shall be conducted in accordance with ASTM Standard Test Method D1078-01, or its most current version for distillation range of volatile organic liquids.~~

~~(6) Calculation of total VOC vapor pressure for materials subject to Subsection (d)(5)(iii) or (d)(6)(iii) of this rule shall be conducted in accordance with the District's "Procedures for Estimating the Vapor Pressure of VOC Mixtures," as it exists on June 27, 1995. If the vapor pressure of the liquid mixture, as calculated by this procedure, exceeds the limits specified in Subsection (d)(5)(iii) or (d)(6)(iii), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-97, or its most current version. The solvent composition shall be determined using one of the following ASTM standard recommended practices: E 168-99, E 169-99 or E 260-96 (2001), or their most current versions. The fraction of water and exempt compounds in the liquid phase shall be determined by using ASTM Standard Test Methods D3792-99, or D4017-02 and D4457-02, or their most current versions, and shall be used to calculate the partial pressure of water and exempt compounds. The results of vapor pressure measurements obtained using ASTM Test Method D2879-97 shall be corrected for partial pressure of water and exempt compounds.~~

~~(7) Measurement of solvent losses from alternative application cleaning equipment subject to Subsection (d)(6)(vii) shall be conducted and reported in accordance with the South Coast Air Quality Management District's "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems," as it exists on September 25, 2002.~~

~~(8) Measurement of control device efficiency subject to Subsection (e)(1) of this rule shall be conducted in accordance with EPA Methods 25A and/or 18 (40 CFR 60) and in accordance with a protocol approved by the Air Pollution Control Officer.~~

~~(9) Measurement of the emission collection system capture efficiency subject to Subsection (e)(1)(iii) of this rule shall be determined according to EPA Method 204 and Method 204A-F "Capture Efficiency" (40 CFR 51, Appendix M) and EPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995, using a protocol approved by the Air Pollution Control Officer. Subsequent to the initial compliance demonstration period, applicable key system operating parameters, as~~

~~approved by the Air Pollution Control Officer, may be used as verification that capture efficiency has not diminished.~~

~~(10) Determination of the solids content of coatings shall be conducted in accordance with EPA Test Method 24 (40 CFR 60, Appendix A).~~