



Air Pollution Control Board

San Diego County Air Pollution Control District

AGENDA ITEM

Governing Body

GREG COX
First District

DIANNE JACOB
Second District

PAM SLATER-PRICE
Third District

RON ROBERTS
Fourth District

BILL HORN
Fifth District

DATE: June 27, 2012

AP01

TO: Air Pollution Control Board

SUBJECT: NOTICED PUBLIC HEARING – ADOPTION OF AMENDMENTS TO RULE 67.11 – WOOD PRODUCTS COATING OPERATIONS, AND REPEAL OF RULE 67.11.1 – LARGE COATING OPERATIONS FOR WOOD PRODUCTS (DISTRICT: All)

SUMMARY:

Overview

The Air Pollution Control Board (Board) is requested to adopt proposed amendments to Rule 67.11, to tighten limits on the amount of volatile organic compounds (VOCs) that can be present in coatings and cleaning solvents used in the finishing of new wood products. Affected industries are primarily cabinet, furniture, and window and door manufacturers. Residential non-commercial operations are not affected.

The application of wood coatings and cleaning solvents results in emissions of VOCs, which contribute to the formation of ground-level ozone. Despite substantial air quality improvement over the past two decades, San Diego County does not yet attain all state and federal air quality standards for ozone. Consequently, rules to control VOC emissions are required to be updated to reflect the current state of control technology.

Rule 67.11 was last updated in 2002. Since then, the performance of lower-emitting coatings and cleaning materials used in the finishing of new wood products has improved considerably. The proposed tighter VOC limits are already in place throughout much of California, and compliant materials are readily available for similar prices as conventional materials. If adopted, the amendments will not take effect for 12 months, allowing time for affected businesses to use and deplete their inventories of non-compliant materials and transition to the new standards. Refinish coatings, such as those used to restore antiques or other existing wood products, are not affected.

The Board is also requested to repeal outdated Rule 67.11.1, which was adopted in 2002 and applies only to large-scale wood coating operations. The Rule 67.11.1 requirements are duplicative of existing Rule 67.11 standards that took effect in 2005

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for both larger and smaller operations. Consequently, Rule 67.11.1 is no longer needed.

Recommendation(s)

AIR POLLUTION CONTROL OFFICER

1. Find that the adoption of amendments to Rule 67.11 and repeal of Rule 67.11.1 are categorically exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Section 15308, as an action taken to assure the protection of the environment, where the regulatory process involves procedures for protection of the environment, and pursuant to California Code of Regulations Title 14, Section 15061(b)(3), since it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment.
2. Adopt the resolution entitled RESOLUTION AMENDING RULE 67.11 – WOOD PRODUCTS COATING OPERATIONS, AND REPEALING RULE 67.11.1 – LARGE COATING OPERATIONS FOR WOOD PRODUCTS, OF REGULATION IV OF THE RULES AND REGULATIONS OF THE SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT. |

Fiscal Impact

Funds for this request are included in the Fiscal Year 2011-12 Operational Plan in the Air Pollution Control District (District). If adopted, the proposed amendments to Rule 67.11 will be implemented and enforced with existing District staff and will not have a significant fiscal impact on the District.

Business Impact Statement

Adopting the proposed amendments to Rule 67.11 will not significantly impact the business community. The proposed wood coatings and cleaning materials with a lower content of VOCs are widely available and priced similarly to their conventional counterparts. Many wood coating operations already comply with the proposed amendments due to the market availability of compliant materials.

If adopted, the amendments will not take effect for 12 months, thus allowing time for affected businesses to use and deplete their inventories of non-compliant materials and transition to the new standards. Furthermore, the amendments allow each coating operation to use up to 20 gallons per year of non-compliant coatings. This allowance addresses future situations where a coating with a higher content of VOCs may be preferred to achieve a desired finish.

District staff conducted substantial outreach to affected facilities during development of the proposed rule amendments, including conducting a public workshop and

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participating in an industry symposium, and is not aware of any significant concerns with the proposal. If the rule amendments are adopted by the Board, District staff will issue an advisory to further inform potentially affected sources of the new requirements and their future effective date.

Advisory Board Statement

At its meeting on November 1, 2011, with all members present, the Air Pollution Control District Advisory Committee voted unanimously in support of the District's recommendations.

BACKGROUND:

Concentrations of ground-level ozone have been cut nearly in half in San Diego County over the past 25 years even while the region's population and motor vehicle use have substantially grown, clearly showing that air pollution control measures are working. Notwithstanding this air quality improvement, the region does not currently meet all National and State Ambient Air Quality Standards for ozone and therefore is classified as an ozone nonattainment area. National and state laws therefore require the District to periodically update its rules pertaining to emissions of ozone precursors – VOCs and oxides of nitrogen – to reflect the current state of air pollution control technology.

Amendments to Rule 67.11

Existing Rule 67.11 regulates VOC emissions resulting from the coating of wood products and associated cleaning operations. The rule was first adopted in 1989 and last revised in 2002. The primary objectives in amending Rule 67.11 are to ensure ongoing compliance with federal requirements to implement current Reasonably Available Control Technology (RACT) and state requirements to adopt all feasible measures applicable to the wood products coating industry. The proposed amendments reflect the current market availability of coating and cleaning materials with lower VOC content and satisfactory performance. Many air districts throughout California are already implementing the tighter VOC limits for wood coating operations in their regions.

The proposed amendments to Rule 67.11 lower the VOC content limit for five types of coatings applied to new wood products: fillers, high-solid stains, multi-colored coatings, sealers, and low-solids coatings. The proposal does not affect refinish coatings, such as those used to restore antiques or other existing wood products that were previously coated.

The proposed rule amendments also require surface preparation and equipment cleaning materials to comply with a VOC content limit of 25 grams per liter. In addition, the small usage exemption limit for stationary sources will be reduced from 500 gallons to 20 gallons of coatings per consecutive 12 months. These amendments are comparable to existing requirements throughout much of California.

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The proposed rule amendments also update the test methods for determining the VOC content and exempt compounds in coatings and cleaning materials. In addition, the amendments include updated definitions and record keeping requirements.

There are 125 permitted facilities in San Diego County that are currently subject to Rule 67.11, based on data collected at the time of the public workshop on the proposed rule amendments. The total VOC emissions from permitted wood coating operations in the County are approximately 157 tons per year. The rule amendments will reduce VOC emissions from these operations by approximately 19 tons per year, which is a 12% reduction.

If adopted by the Board, amended Rule 67.11 will be submitted through the California Air Resources Board to the U.S. Environmental Protection Agency for approval and inclusion into the State Implementation Plan (SIP).

Repeal of Rule 67.11.1

Rule 67.11.1 was adopted in 2002 to implement federal requirements applying at that time only to large-scale wood coating operations. Specifically, the rule applies to wood coating facilities that emit 25 tons or more of VOCs per year. There are currently no such facilities in San Diego County.

At the time of its adoption in 2002, Rule 67.11.1 specified lower federal VOC limits (compared to Rule 67.11) for large wood coating operations. However, in 2005 those same lower VOC limits took effect for all permitted operations (regardless of size) pursuant to Rule 67.11. Consequently, Rule 67.11.1 is now redundant and unnecessary. Furthermore, Rule 67.11.1 will become obsolete upon adoption of the proposed amendments to Rule 67.11.

The requested action to repeal Rule 67.11.1 will have no impact on sources or emissions. If repealed, Rule 67.11.1 will be requested for removal from the SIP.

Socioeconomic Impact Assessment

Section 40728.5 of the State Health and Safety Code requires the District to assess the socioeconomic impacts when adopting, amending, or repealing a rule that will significantly affect air quality or emission limitations. The assessment must include an evaluation of small business impacts. The proposed amendments to Rule 67.11 contain new, lower VOC emission limitations for wood coating and cleaning materials used in wood coating operations. Accordingly, a Socioeconomic Impact Assessment has been prepared (Attachment B), which shows that the rule amendments will not have significant economic impact on the affected industry, including small businesses.

Environmental Statement

The amendment of Rule 67.11 and repeal of Rule 67.11.1 is exempt from the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Section 15308,

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as an action taken to assure the protection of the environment, where the regulatory process involves procedures for protection of the environment. In this case, this action is being taken in response to federal and state requirements to reduce emissions of VOCs in order to achieve ambient air quality standards. Additionally, this action is also exempt pursuant to California Code of Regulations Title 14, Section 15061(b)(3), since it can be seen with certainty that there is no possibility that the activity in question may have a significant adverse effect on the environment. Many affected facilities already comply with the proposed requirements and compliant materials are widely available and in use.


Linkage to the County of San Diego Strategic Plan

Today's proposed action supports the Environment Strategic Initiative in the County of San Diego's 2011-2016 Strategic Plan with an objective to cost-effectively protect air quality. The proposed amendments to Rule 67.11 will codify the use of wood coating materials with lower emissions of VOCs without negatively impacting the local business community. The rule balances air quality preservation and economic development needs.

Respectfully submitted,



SARAH E. AGHASSI
Deputy Chief Administrative Officer



ROBERT J. KARD
Air Pollution Control Officer

ATTACHMENT(S)

Attachment A – RESOLUTION AMENDING RULE 67.11 – WOOD PRODUCTS COATING OPERATIONS, AND REPEALING RULE 67.11.1 – LARGE COATING OPERATIONS FOR WOOD PRODUCTS, OF REGULATION IV OF THE RULES AND REGULATIONS OF THE SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT

Attachment B – Socioeconomic Impact Analysis

Attachment C – Comparative Analysis

Attachment D – Incremental Cost Effectiveness Analysis

Attachment E – Workshop Report

Attachment F – Rule 67.11 Change Copy

Attachment G – Rule 67.11.1 to be Repealed

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AGENDA ITEM INFORMATION SHEET |

REQUIRES FOUR VOTES: ☐ Yes ☒ No

WRITTEN DISCLOSURE PER COUNTY CHARTER SECTION 1000.1 REQUIRED
☐ Yes ☒ No

PREVIOUS RELEVANT BOARD ACTIONS:

September 25, 2002 (APCB #2), Adoption of New Rule 67.11.1 – Large Coating Operations for Wood Products and Amendment of Rule 67.11 – Wood Products Coating Operations.

BOARD POLICIES APPLICABLE:

N/A

BOARD POLICY STATEMENTS:

N/A

MANDATORY COMPLIANCE:

N/A

ORACLE AWARD NUMBER(S) AND CONTRACT AND/OR REQUISITION NUMBER(S):

N/A

ORIGINATING DEPARTMENT: Air Pollution Control District

OTHER CONCURRENCE(S): N/A

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Resolution No: 12-096
Meeting Date: 06/27/2012 (AP1)

**RESOLUTION AMENDING RULE 67.11 – WOOD PRODUCTS
COATING OPERATIONS, AND REPEALING RULE 67.11.1 – LARGE
COATING OPERATIONS FOR WOOD PRODUCTS, OF
REGULATION IV OF THE RULES AND REGULATIONS OF THE
SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT**

On motion of Member Horn, seconded by Member Slater-Price,
the following resolution is adopted:

WHEREAS, the San Diego County Air Pollution Control Board, pursuant to Section 40702 of the Health and Safety Code, adopted Rules and Regulations of the Air Pollution Control District of San Diego County; and

WHEREAS, said Board now desires to amend said Rules and Regulations; and

WHEREAS, notice has been given and a public hearing has been held relating to the amendment of said Rules and Regulations pursuant to Section 40725 of the Health and Safety Code and Section 51.102 of the Code of Federal Regulations; and

WHEREAS, pursuant to Section 40727 of the Health and Safety Code, the San Diego County Air Pollution Control Board makes the following findings:

- (1) (Necessity) The adoption of proposed amendments to Rule 67.11 is necessary in order to implement federal requirements for Reasonably Available Control Technology and State requirements for all feasible control measures to achieve the ambient air quality standards for ozone by reducing emissions of volatile organic compounds in the County of San Diego, and the repeal of Rule 67.11.1 is necessary in order to maintain clarity of requirements for those affected;
- (2) (Authority) The adoption of proposed amendments to Rule 67.11 and repeal of Rule 67.11.1 are authorized by Health and Safety Code Section 40702;
- (3) (Clarity) The proposed amendments to Rule 67.11 and repeal of Rule 67.11.1 can be easily understood by persons directly affected by them;
- (4) (Consistency) The adoption of proposed amendments to Rule 67.11 and repeal of Rule 67.11.1 are in harmony with, and not in conflict with or contrary to, existing statutes, court decisions, and State and federal regulations;
- (5) (Non-duplication) The adoption of proposed amendments to Rule 67.11 and repeal of Rule 67.11.1 will not duplicate existing District or federal requirements;

- (6) (Reference) The adoption of proposed amendments to Rule 67.11 and repeal of Rule 67.11.1 are necessary to comply with: federal law, Clean Air Action Section 182(b)(2), which requires implementation of Reasonably Available Control Technology on stationary sources of volatile organic compound emissions; and State law, California Health and Safety Code Section 40914(b)(2), which requires adoption of every feasible control measure to reduce ozone-precursor emissions;

WHEREAS, the Air Pollution Control Board further finds pursuant to Health and Safety Code Section 40001 that adoption of proposed amendments to Rule 67.11 will facilitate the attainment of ambient air quality standards; and

WHEREAS, the Air Pollution Control Board further finds that Rule 67.11.1 is now duplicative of Rule 67.11 and will be rendered obsolete upon the effective date of the amendments to Rule 67.11; and

WHEREAS, the Air Pollution Control Board further finds that an analysis comparing proposed amendments to Rule 67.11 with applicable requirements of federal and local regulations has been prepared pursuant to Health and Safety Code Section 40727.2; and

WHEREAS, the Air Pollution Control Board further finds that an incremental cost-effectiveness analysis pursuant to Health and Safety Code Section 40920.6(a) has been prepared for proposed amendments to Rule 67.11 and has been made available for public review and comment, and has been actively considered; and

WHEREAS, the Air Pollution Control Board further finds that an assessment of the socioeconomic impacts of the proposed amendments to Rule 67.11 and repeal of Rule 67.11.1 has been prepared pursuant to Health and Safety Code Section 40728.(5) and has been actively considered, and that the requirements of paragraphs (2) and (4) of Health and Safety Code Section 40728.5(b) do not apply and therefore are waived pursuant to Health and Safety Code Section 40728.5(e).

NOW THEREFORE IT IS RESOLVED AND ORDERED by the San Diego County Air Pollution Control Board that the Rules and Regulations of the Air Pollution Control District of San Diego County be and hereby are amended as follows:

1. Proposed amended Rule 67.11 is to read as follows:

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 (one 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 stationary source where 20 gallons or less of coatings are applied to wood products per consecutive 12-month period. 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.

(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) 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 applied by air brushes with a capacity of two ounces (59.1 ml) or less.

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

(3) The provisions of Subsections (d)(2) and (d)(3) 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.

(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.

(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.

(6) **"Coating"** means a VOC containing material, 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.

(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.

(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, when acid catalyzed and applied, hardens by evaporation and polymerization.

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

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

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

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

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

(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 pressurized air which is designed to be operated and which is operated at an atomizing pressure between 0.1 and 10.0 psig, measured dynamically at the center of the applicator's air cap and the applicator's air horns.

(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.

(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. 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) **"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.

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

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

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

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

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

(30) **"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.

(31) **"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.

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

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

(34) **"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 in Rule 2.

(35) **"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.

(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, shutters, and cabinets.

(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 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) below, 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:

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|--|-------------------|---------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| Clear Topcoats | 275 | 2.3 |
| Conversion Varnishes | 550 | 4.6 |
| Fillers | 275 | 2.3 |
| High-Solids Stains | 350 | 2.9 |
| Inks | 500 | 4.2 |
| Medium Density Fiberboard (MDF) Coatings | 550 | 4.6 |
| Multi-Colored Coatings | 275 | 2.3 |
| Pigmented Coatings | 275 | 2.3 |
| Sealers | 275 | 2.3 |
| Any Other Coatings | 275 | 2.3 |

(ii) A person shall not apply a low-solids coating, including toners and washcoats, to a new wood product with a VOC content in excess of 120 grams of VOC per liter of material or 1.0 pound of VOC per gallon of material, as applied.

The requirements of Subsection (d)(2) may be met using an Alternative Emission Control Plan (AECPP) 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:

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|--|-------------------|---------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| 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 | 5.7 |
| Pigmented Coatings | 600 | 5.0 |
| Sealers | 680 | 5.7 |
| Any Other Coatings | 420 | 3.5 |

(ii) A person shall not apply 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:

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|--|-------------------|---------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| 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 (AECPP) that has been approved pursuant to Rule 67.1.

(4) Surface Preparation Materials

A person shall not use VOC containing materials for surface preparation unless the material contains 25 grams or less of VOC per liter of material.

(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 grams or less of VOC per liter of material; or
- (ii) The cleaning material is flushed or rinsed through the application equipment in a contained manner that will minimize evaporation into the atmosphere; or
- (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
- (iv) A system is used that totally encloses the component parts being cleaned during the washing, rinsing, and draining processes.

(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 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 and transports 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.

(2) A person electing to use control equipment pursuant to Subsection (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

(1) Any person conducting operations subject to this rule shall maintain records in accordance with the following:

- (i) Maintain a current list of coatings, 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 (such as bases, catalysts, thinners or reducers, when supplied in separate containers), and stripping, surface preparation and cleaning material; and

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

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

(iii) Maintain monthly or daily records of the amount of each coating or each coating component for multi-component coatings used.

(iv) Maintain monthly inventory, purchasing or dispensing records of the amount of each 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, 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, 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," 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," 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), September 11, 1995, or by the SCAQMD Method 304-91 (Determination of Volatile Organic Compounds in Various Materials), February 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), June 1993, or by the SCAQMD Method 308-91 (Quantitation of Compounds by Gas Chromatography), 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), 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 (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 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.

2. Existing Rule 67.11.1 is to be repealed in its entirety.

IT IS FURTHER RESOLVED AND ORDERED that the amendments to Rule 67.11 of Regulation IV shall take effect (*one year after date of adoption*).

IT IS FURTHER RESOLVED AND ORDERED that the repeal of Rule 67.11.1 of Regulation IV shall take effect immediately.

APPROVED AS TO FORM AND LEGALITY
COUNTY COUNSEL

BY: _____
SENIOR DEPUTY

PASSED AND ADOPTED by the Air Pollution Control Board, County of San Diego, State of California, on this 27th day of June, 2012, by the following vote:

AYES: Cox, Jacob, Slater-Price, Roberts, Horn
- - -

STATE OF CALIFORNIA)
County of San Diego)^{SS}

I hereby certify that the foregoing is a full, true and correct copy of the Original Resolution entered in the Minutes of the Board of Supervisors.

THOMAS J. PASTUSZKA
Clerk of the Air Pollution Control Board

By: Nancy Vizcarra
Nancy Vizcarra, Deputy

No. 12-096

06-27-2012 (APCB 1)



SOCIOECONOMIC IMPACT ASSESSMENT

PROPOSED AMENDED RULE 67.11 - WOOD PRODUCTS COATING OPERATIONS

August 2011

Prepared by

**San Diego County Air Pollution Control District
10124 Old Grove Road
San Diego, CA 92131**

SOCIOECONOMIC IMPACT ASSESSMENT
PROPOSED AMENDED RULE 67.11 -
WOOD PRODUCTS COATING OPERATIONS

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EXECUTIVE SUMMARY

This report represents the results of a socioeconomic impact assessment (SIA) of the San Diego County Air Pollution Control District's (District) proposed amended Rule 67.11 – Wood Products Coating Operations. The proposed amended rule will help fulfill State law requiring the adoption of all feasible control measures and federal law requiring Reasonably Available Control Technology (RACT).

The proposed amended rule will lower the volatile organic compound (VOC) content limit for several wood coating categories, and surface preparation and cleaning materials. The small usage exemption limit for stationary sources will be reduced from 500 gallons to 20 gallons of coatings per consecutive 12 months. The new 20 gallon limit is consistent with the permitting exemption threshold in Rule 11 – Exemptions from Rule 10 Permit Requirements, and will not result in any additional facilities being subject to Rule 67.11. The amended rule also includes new and revised definitions and updated test methods for determining compliance. Additionally, the District proposes to repeal outdated Rule 67.11.1 – Large Coating Operations for Wood Products, which applies only to facilities that emit 25 tons or more of VOC per calendar year. These same large sources are also subject to existing Rule 67.11, and therefore the repeal will have no impact on existing facilities or on VOC emissions in the County of San Diego.

The rule applies to 125 permitted facilities in San Diego County involved in wood products coating operations. Of these 125 facilities, about 80 will have to replace their higher VOC content wood coatings with lower VOC content coatings. The other 45 facilities are either already complying with the proposed limits or have operations that are exempt from the standards of the rule. Compliant coatings are widely available in the marketplace at prices not much different from the products complying with the existing rule.

The total annual VOC emissions from wood coating operations in San Diego County are approximately 157 tons per year (0.43 tons per day). Lowering the VOC content limit of several wood coatings and reducing the rule applicability limit will result in emission reductions of approximately 19 tons of VOC per year, a 12% reduction.

The proposed amendments are not expected to have a significant socioeconomic impact on affected industries. The SIA also demonstrates that proposed emission limits in the rule are feasible and that compliant materials are available in the marketplace. The estimated cost-effectiveness of Rule 67.11 amendments will range from \$0.51 to \$1.78/lb of VOC emissions reduced, well within the District threshold for rules regulating VOC emissions that reflect Reasonably Available Control Technology.

I. INTRODUCTION

California law requires air pollution control districts (excluding those with populations of less than 500,000 people) to perform a socioeconomic impact assessment (SIA) when adopting, amending, or repealing rules and regulations that will significantly affect air quality and emission limitations.

Health and Safety (H&S) Code Section 40728.5, subdivision (b), specifies the following elements to be included in the socioeconomic impact assessment:

1. The type of industries or business, including small business, affected by the rule or regulation.
2. The impact of the rule or regulation on employment and the economy of the region affected by the adoption of the rule or regulation.
3. The range of probable costs, including costs to industry or business, including small business, of the rule or regulation.
4. The availability and cost-effectiveness of alternatives to the rule or regulation.
5. The emission reduction potential of the rule or regulation.
6. The necessity of adopting, amending, or repealing the rule or regulation in order to attain State and federal ambient air quality standards.

Pursuant to H&S Code Section 40728.5(e), the analyses specified in paragraphs (2) and (4) above are not required, upon approval by a majority vote of the District Board, if the proposed rule is substantially similar to, or required by, a state or federal law, regulation, or formal guidance document, including federal Control Techniques Guidelines (CTGs)

The proposed amendments to Rule 67.11 are required by federal law. Specifically, the District must require Reasonably Available Control Technology (RACT) on all sources covered by a federal CTG. The wood furniture CTG was issued 15 years ago (in 1996) and its requirements have since become outdated and no longer represent RACT, according to EPA. In this case, the District must determine RACT by reviewing the existing wood coating regulations in other air districts in California. If a more stringent requirement in another district would be technically feasible and cost-effective for local sources, then that requirement is considered RACT and must be implemented by the District. The proposed amendments to Rule 67.11 were developed to satisfy this federal RACT requirement. Therefore, the analyses specified in paragraphs (2) and (4) above are not required, upon approval by a majority vote of the District Board.

II. NECESSITY OF AMENDING RULE 67.11

San Diego County does not meet the National and State Ambient Air Quality Standards for ozone and is classified as an ozone nonattainment area. Consequently, emissions of air pollutants that form ozone, including VOCs, must be reduced. State and federal laws require the District to implement new rules or amend existing rules to control VOC emissions from stationary sources as control technologies improve or control costs are reduced.

The existing Rule 67.11 regulates VOC emissions resulting from the coating of wood products and associated cleaning operations. The rule was first adopted in 1989 and last amended in 2002. Since then, several other air districts in California have amended their corresponding rules to further reduce VOC emissions from wood coating operations. Proposed amended Rule 67.11 will reflect the current availability of coating and cleaning materials with lower VOC content and will generally update the rule, where necessary.

The amended rule will also help to fulfill the District's commitment in the San Diego County Regional Air Quality Strategy to implement all feasible emission control measures as required by State law, as well as the federal requirement for implementing Reasonably Available Control Technology in rules regulating sources of VOC emissions.

III. SUMMARY OF PROPOSED AMENDED RULE 67.11

Amended Rule 67.11 will:

- Reduce the small usage exemption limit for a stationary source from 500 gallons to 20 gallons or less of coatings per consecutive 12-month period, provided that the specified records are kept.
- Exempt wood coating operations that emit 150 pounds or less of VOC per consecutive 12-month period, excluding emissions from surface preparation, cleanup, and stripping materials, from most sections of the rule, provided that the required records are kept.
- Exempt wood coating operations that use no more than 20 gallons of non-compliant coatings per consecutive 12-month period from most sections of the rule, provided that not more than 20 gallons of such non-compliant coatings are used at the stationary source and the specified records are kept.
- Update definitions for major terms used in the rule.
- Reduce VOC content limits for specified wood coatings applied to new wood products, including low-solids coatings.
- Remove outdated references and the subsection specifying VOC content limits for coatings used in large coating operations. These separate limits are no longer needed because the same VOC content limits will apply to all facilities, regardless of their size.

- Reduce the VOC content limit for surface preparation and equipment cleaning materials to 25 grams or less of VOC per liter of material.
- Reduce the total VOC vapor pressure limit for stripping materials to 2 mm Hg or less, at 20°C (68°F).
- Clarify and update record keeping requirements for persons conducting operations subject to this rule.
- Update the test methods for determining compliance.

Additionally, the District proposes to repeal outdated Rule 67.11.1 – Large Coating Operations for Wood Products, which applies only to facilities that emit 25 tons or more of VOC per calendar year. These same large sources are also subject to existing Rule 67.11, and therefore the repeal will have no impact on existing facilities or on VOC emissions in the County of San Diego.

IV. TYPE OF INDUSTRIES AFFECTED BY AMENDED RULE 67.11

Proposed amended Rule 67.11 will affect owners and operators of companies involved in wood products coating operations. The following table presents the list of industries, and their North American Industry Classification System (NAICS) codes, that could be impacted by the proposed amended rule.

Table 1. NAICS Classification of Industries

| Type of Industries | NAICS Code |
|--|----------------|
| Wood Window and Door Manufacturing | 321911 |
| Other Millwork (including Flooring) | 321918 |
| All Other Miscellaneous Wood Product Manufacturing | 321999 |
| Wood Kitchen Cabinet and Countertop Manufacturing | 337110 |
| Upholstered and Non-upholstered Wood Household Furniture Manufacturing | 337121, 337122 |
| Institutional Furniture Manufacturing | 337127 |
| Wood Office Furniture Manufacturing | 337211 |
| Custom Architectural Woodwork and Millwork Manufacturing | 337212 |
| Re-upholstery and Furniture Repair | 811420 |

There are approximately 125 permitted facilities in San Diego County involved in wood coating operations and subject to current Rule 67.11. These facilities vary in size from one and two person shops engaged in cabinet making or furniture refinishing to manufacturing facilities employing over 100 people. About half of all facilities subject to Rule 67.11 employ less than 10 employees. Approximately 25% of companies employ over 100 people.

Affected businesses also vary in the types of products they manufacture. About 80% of facilities are involved in either kitchen cabinet or furniture making (including refinishing operations). The remaining 20% of facilities are involved in window and door manufacturing or other millwork manufacturing. A few businesses manufacture musical instruments and therefore are exempt from the VOC content coating limits in the rule.

Businesses in the wood coating industry also vary greatly in the type of coatings they use. Wood coatings include various stains, sealers, paints, lacquers and specialty coatings which are applied to numerous types of wood products. Some examples of wood products typically coated include bookcases, desks, entertainment centers, bedroom furniture, spa housings, shutters, kitchen and bathroom cabinets, and custom household and church furniture.

Wood coatings are primarily air-dried coatings, though some coatings require drying with heated air or lamps. Depending upon the quality of the final wood product, several different types of coating processes are used. While a coating system may be as simple as a single stain application, the most common system consists of three parts, and typically contains a stain, sealer and topcoat. A few high quality systems may require seven or eight coating steps. Most coatings are applied with high transfer efficiency equipment such as High Volume-Low Pressure (HVLP) spray guns, flow coating, hand wiping, rollers or brushes.¹

Coating application equipment such as spray guns, hoses, cups and pots are typically cleaned by soaking, wiping, flushing, or spraying the equipment within an enclosed container with organic solvents (i.e., acetone). For equipment used with water-based coatings, water is often used to clean the equipment.

V. EMISSION REDUCTION POTENTIAL AND COST-EFFECTIVENESS OF PROPOSED AMENDED RULE

1. Emission reductions.

The proposed amendments to Rule 67.11 will reduce the VOC content limit of five wood coating categories: fillers, high-solids stains, multi-colored coatings, sealers, and low-solids coatings. The amendments will also lower the small usage exemption for a stationary source from 500 gallons to 20 gallons of coatings or less per consecutive 12-months, requiring those currently exempt facilities to comply with the VOC content standards of the rule. The new 20 gallon limit is consistent with the permitting exemption threshold in Rule 11 – Exemptions from Rule 10 Permit Requirements, and will not result in any additional facilities being subject to Rule 67.11. In addition, the amendments will require surface preparation and equipment cleaning materials to comply with a VOC content limit of 25 grams per liter, reduced from 200 grams per liter.

According to the District's files, the proposed amendments will impact approximately 80 of the total 125 permitted facilities subject to the rule. The other 45 facilities are either already complying with the proposed limits or have operations that are exempt from the standards of the rule. The total annual VOC emissions from wood coating operations in San Diego County are approximately 157 tons per year (0.43 tons per day).² Lowering the VOC content limit of the

above mentioned wood coatings will result in emission reductions of approximately 19 tons of VOC per year, a 12% reduction.

No significant emission reductions are expected from lowering the VOC content limit of surface preparation and equipment cleaning materials from 200 grams per liter to 25 grams per liter. The majority of permitted facilities already use either acetone (an exempt compound) or water for cleaning or surface preparation. The lower VOC content limit was included in the proposed amended rule to reflect the availability of low VOC content cleaning materials and for consistency with other District rules regulating VOC emissions and with other regions.

2. Cost-Effectiveness of the proposed rule.

Many air districts in California, including large districts such as Bay Area and South Coast Air Quality Management District (SCAQMD), have very similar or more stringent wood products coating rules. Consequently, low VOC content wood coatings and cleaning materials are widely available in the marketplace at prices not much different from products with higher VOC content sold.

The information obtained from local wood coating manufacturers show that there is no significant difference between the cost of wood coatings that comply with the proposed amended rule and those presently being used. For example, a high VOC content sealer is sold for about \$16 per gallon, while a low VOC content product costs about \$17 per gallon.

Some of the 50 permitted facilities currently using less than 500 gallons of wood coatings per year, and thus exempt from portions of the current rule, may need to replace their current spray guns with High-Volume Low-Pressure (HVLP) spray guns to comply with the proposed amended rule. For this analysis, it was assumed that 10% of these previously exempt facilities will have to purchase HVLP spray guns at a cost of \$500 per facility.

The estimated cost-effectiveness of Rule 67.11 amendments will range from \$0.51/lb of VOC emissions reduced for facilities only replacing their high VOC content coatings, to \$1.78/lb of VOC emissions reduced for facilities also having to upgrade to an HVLP spray gun. These values are significantly lower than the District's cost-effectiveness threshold of \$6/lb of VOC reduced for prohibitory rules reflecting RACT.

VI. RANGE OF PROBABLE COSTS TO INDUSTRY INCLUDING SMALL BUSINESS

Historically, for purposes of SIAs, the District has defined a small business as an entity that meets all of the conditions below.

1. The business is independently owned and operated. (California Government Code, Section 11342.610, Small Business definition)
2. The business is not dominant in its field of operation. (Same)

3. The business has gross annual receipts not more than \$500,000. (SCAQMD, Rule 102)
4. The business employs ten persons or less. (SCAQMD Rule 102)
5. The business has total annual VOC emissions less than 10 tons. (H&S Code, Section 42323, Small Stationary Source)

According to the District's permit files and information obtained from the California Employment Development Department,³ 57 of the total 125 permitted facilities subject to the proposed amended rule meet all conditions mentioned above.

As mentioned previously, all wood coatings complying with the VOC content limits in the proposed amended rule are presently available in the marketplace. This is due to other districts in California having adopted similar wood product coating regulations, in particular by the adjacent SCAQMD. Those facilities that have to replace their high VOC content wood coatings can find compliant coatings at comparable prices.

The estimated cost-effectiveness of Rule 67.11 amendments will range from \$0.51 to \$1.78/lb of VOC emissions reduced. It is expected that the cost-effectiveness for small business will fall in the higher end of the range at \$1.78/lb of VOC reduced, because they are more likely to have to upgrade to an HVLP spray gun. Therefore, the proposed amendments are not expected to have a significant impact on affected facilities, including small business.

References

1. San Diego Air Pollution Control District. Final Staff Report for the SDAPCD Rule 67.11 – Wood Parts & Products Coating Operations, July 1995.
2. California Air Resources Board, Almanac Emission Projection Data by EIC, San Diego County APCD, for 2008. <http://www.arb.ca.gov/app/emsinv>
3. California Employment Development Department, Labor Market Information. <http://www.labormarketinfo.edd.ca.gov>

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

**COMPARATIVE ANALYSIS OF
PROPOSED AMENDMENTS TO
RULE 67.11 – WOOD PRODUCTS COATING OPERATIONS**

STATUTORY REQUIREMENTS

Prior to adopting, amending, or repealing a rule or regulation, California Health and Safety Code Section 40727 requires findings of necessity, authority, clarity, consistency, non-duplication, and reference. As part of the consistency finding to ensure proposed rule requirements do not conflict with or contradict other Air Pollution Control District (District) or federal regulations, Health and Safety Code Section 40727.2(a) requires the District to perform a written analysis identifying and comparing the air pollution control standards and other provisions of proposed amended Rule 67.11 with existing or proposed District rules and guidelines and existing federal rules, requirements, and guidelines applying to the same source category.

ANALYSIS

Proposed amended Rule 67.11 applies to all wood products coating operations and associated cleaning operations emitting volatile organic compounds (VOCs). The U.S. Environmental Protection Agency (EPA) has published a Control Techniques Guidelines (CTG) for Wood Furniture Manufacturing Operations applicable to wood coating operations emitting 25 tons per year or more of VOC.

In addition, District New Source Review (NSR) Rule 20.2 - Non-Major Stationary Sources, also applies to any new or modified wood products coating operation that would be subject to amended Rule 67.11. Rule 20.2 requires that any non-major new or modified emission unit that has a post-project potential to emit of 10 pounds/day or more of VOC be equipped with Best Available Control Technology (BACT). For wood product coating operations, BACT is identified as either use of an add-on emission control system, or if such system is demonstrated to be not cost-effective, compliance with the requirements of Rule 67.11. Proposed amended Rule 67.11 will take effect one year after the date of rule adoption. Since amended Rule 67.11 contains VOC content limits for various wood coatings and cleaning and stripping materials that are more stringent than the existing rule, these limits will become the new BACT requirements.

CONCLUSION

As shown in Table 1, there are no conflicts or contradictions between proposed amended Rule 67.11 and EPA's Control Technique Guidelines. Furthermore, there are no contradictions between the proposed amended rule and the District's NSR Rule 20.2 BACT requirements.

TABLE 1 – COMPARATIVE ANALYSIS

| Items for Comparison | Proposed Amended Rule 67.11 | SD APCD Best Available Control Technology (BACT) | CTG for Wood Furniture Manufacturing Operations |
|--------------------------------------|---|--|--|
| Applicability | All wood product coating operations and associated stripping, surface preparation and coating application equipment cleaning. | Sources that emit > 10 lb/day of VOC. | Wood product coating operations emitting 25 tons per year or more of VOC. |
| Exemptions | <p>Exempt from rule:</p> <ol style="list-style-type: none"> 1. Wood coating operations using 20 gallons or less of coatings per consecutive 12 months. 2. Wood coating operations with VOC emissions of 150 lbs or less per consecutive 12 months. 3. Use of non-refillable handheld aerosol spray containers. <p>Exempt from equipment application standard: air brushing and touch-up operations.</p> <p>Exempt from emission standards: coatings applied to wooden musical instruments.</p> | No exemptions | No exemptions |
| VOC Content Standards | VOC content limits for various categories of wood coatings and solvents. | <p>For operations using < 10 gal/day – use of water-based coatings when compatible with the operation and compliance with all other provisions of Rule 67.11, for the rest of the operation.</p> <p>For operations using 10 gal/day or more – a case-by-case determination of applicable add-on control requirements based on the District’s cost-effectiveness guidance is required.</p> | VOC content limits for various categories of wood coatings and solvents. |
| Add-On Emission Control Requirements | Capture and control efficiency >85 % by weight, as an alternative to complying with VOC content limits. | Same as in Rule 67.11– a case-by-case determination of applicable add-on control requirements based on the District’s cost-effectiveness | Control system that will achieve an equivalent reduction in emissions as achieved by complying with the applicable VOC limits. |

| | | | |
|---------------|--|------------------------|--|
| | | guidance is required. | |
| Recordkeeping | 1) Records to be kept for three years. 2) Maintain current list of coating and solvent materials used. 3) Monthly records for coating materials and solvent use records. | Same as in Rule 67.11. | 1) Records to be kept for five years. 2) Maintain current list of coating and solvent materials used. 3) Maintain records for the use of coating materials and solvents. |
| Test Methods | Various methods approved by EPA or ARB, including VOC content, vapor pressure, and capture efficiency. | Same as in Rule 67.11. | Various methods including VOC content, solids content, and capture efficiency. |

* There are currently no applicable federal New Source Performance Standards (NSPS) to this source category. National Emission Standards for Hazardous Air Pollutants (NESHAP) – Wood Furniture Manufacturing Operations (NESHAP Subpart JJ) – applies to facilities that emit more than 10 tons/year of any one hazardous air pollutant (HAP) or 25 tons/year of a combination of HAPs. There are currently no sources in San Diego County that are subject to this NESHAP.

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

**INCREMENTAL COST-EFFECTIVENESS ANALYSIS OF
PROPOSED AMENDMENTS TO RULE 67.11 – WOOD PRODUCTS
COATING OPERATIONS**

Health and Safety Code Section 40920.6(a) requires air districts to identify one or more potential control options that achieve at least the same benefit as the proposed rule, assess the cost-effectiveness of those options, calculate the incremental cost-effectiveness of each identified option, consider and review this information, and state the reasons for adopting a particular control option or options. Incremental cost-effectiveness is defined as the difference in control costs divided by the difference in emission reductions between two potential control options achieving the same emission reduction goal.

The primary objectives in amending Rule 67.11 are to ensure ongoing compliance with federal requirements to implement current Reasonably Available Control Technology (RACT) and State requirements to adopt all feasible measures applicable to the wood products coating industry. The proposed amendments will reduce volatile organic compound (VOC) emissions by specifying more stringent VOC limits for wood coating and cleaning materials. Similar requirements are already implemented in other air districts in California and compliant materials are widely available in the marketplace at a cost comparable with the materials presently used.

There are no potential control options providing equivalent emission reductions from wood products coating operations other than the mandatory use of add-on emission control systems, which are costly. Due to high costs, this control option would have very unfavorable cost-effectiveness and incremental cost-effectiveness values and is therefore not feasible.

**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 recordkeeping 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 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.

(23) **"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.~~

(45) **"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.

(56) **"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.

(67) **"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.

(78) **"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.

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

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

(4011) **"Exempt Compound"** means the same as defined in Rule 2.

(4112) **"Filler"** means a material used to fill in cracks, grains and imperfections of wood before applying a coating.

(4213) **"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.

(3028) **"Stripper-Stripping Material"** means a liquid containing VOC and applied to remove a coating, ~~or~~ coating residue or adhesives.

(3129) **"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:~~

$$C_s = \frac{W_s - W_w - W_{es}}{W_f}$$

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_f = 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.

(4036) **"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:~~

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|--|-------------------|---------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| 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:~~

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

(iii) Except as provided in Subsection (d)(2)(iv) ~~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:

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|--|--------------------|--------------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| 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) ~~On and after July 1, 2005, a~~ A person shall not apply ~~the following a~~ low-solids coatings, 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 pounds of VOC per gallon of material ~~(lb/gal)~~, as applied.÷

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|---|-------------------|----------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| 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 (AECPP) 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:

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|--|---------------------------|---------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| Clear Topcoats | 680 | 5.7 |
| <u>Conversion Varnishes</u> | <u>550</u> | <u>4.6</u> |
| 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 | <u>680</u> 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:

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|--|-------------------|---------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| 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 (AECPP) 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:~~

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | | |
|-----------------|-------------------|---------------|--------------|
| | <u>g/L</u> | <u>lb/gal</u> | <u>lb/lb</u> |

| | | | |
|--|-----|-----|------|
| 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:~~

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|--|-------------------|---------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| 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 (AECPP) that has been approved pursuant to Rule 67.1.

(54) 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) ~~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) 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 4, 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-~~1097(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).~~

RULE 67.11.1 LARGE COATING OPERATIONS FOR WOOD PRODUCTS

(Adopted & Effective 9/25/02)

TO BE REPEALED (Effective date of Repeal)

(a) APPLICABILITY

(1) Except as otherwise provided in Section (b), this rule is applicable to a stationary source where the combined uncontrolled emissions of VOCs from all wood product coating operations, including emissions from equipment cleaning, are greater than or equal to 25 tons in a calendar year.

(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 shall not apply to any coating operation which is subject to this rule.

(b) EXEMPTIONS

(1) The provisions of Sections (d), (e), and (f) shall not apply to coatings applied using non-refillable handheld aerosol spray containers.

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

(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) **"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) **"Coating"** means a 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 any adhesives.

(6) **"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) **"Conversion Varnish"** means a topcoat which is comprised of a homogeneous liquid (alkyd-amino resin), which when acid catalyzed and applied, hardens by evaporation and polymerization.

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

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

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

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

(12) **"Flow Coat"** means a coating application method accomplished by flowing a stream of coating over an object.

(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 paintbrushes, hand rollers, rags, and sponges.

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

(16) **"High-Volume Low-Pressure (HVL) Spray"** means a coating application method which uses pressurized air at a permanent pressure between 0.1 and 10.0 psig, not to exceed 10.0 psig, measured at the air cap 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.

(20) **"Medium Density Fiberboard (MDF) Coating"** means the initial coating which is applied directly to the surface of MDF, which 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) **"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.

(23) **"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.

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

(25) **"Stationary Source"** means the same as defined in Rule 2.

(26) **"Stripper"** means a liquid applied to remove a coating or coating residue.

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

(28) **"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.

(29) **"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.

(30) **"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.

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

(32) **"VOC Content Per Pound of Coating Solids"** means the weight of VOC per weight of coating solids in any given coating volume of coating and can be calculated by the following equation:

$$C_s = \frac{W_s - W_w - W_{es}}{W_r}$$

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 |

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

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

(35) **"Washcoat"** means a coating containing not more than one pound of solids per gallon, 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.

(36) **"Wood Products"** means any objects that are made of or primarily fabricated with solid wood, wood composition, bamboo and/or rattan, including 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) Application Methods

Except as provided in Subsection (b)(2), a person shall not apply coatings unless one of the following application methods is used:

- (i) Hand-application method, or
- (ii) Dip coat, or

- (iii) Roll coat, or
- (iv) Flow coat, or
- (v) Electrostatic coat, or
- (vi) High-volume low-pressure (HVLP) coat, 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 operated in such a manner that the parameters under which they were 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 Limits

(i) Except as provided in Section (b), 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:

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | | |
|--|-------------------|---------------|--------------|
| | <u>g/L</u> | <u>lb/gal</u> | <u>lb/lb</u> |
| 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 |

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.

(ii) Except as provided in Section (b), a person shall not apply the following coatings to a new wood product with a VOC content in excess of the following

limits expressed either as grams of VOC per liter of material or pounds of VOC per gallon of material, as applied:

| <u>CATEGORY</u> | <u>VOC LIMITS</u> | |
|--|-------------------|---------------|
| | <u>g/L</u> | <u>lb/gal</u> |
| Low-Solids Stains, Toners, and 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 (AECPP) that has been approved pursuant to Rule 67.1.

(3) Surface Preparation Materials

A person shall not use VOC containing materials for surface preparation, including stripping, unless:

- (i) The material contains 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 total VOC vapor pressure of the material is 20 mm Hg or less at 20°C (68°F).

(4) Cleaning of Coating Application Equipment

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

- (i) The cleaning material contains 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) The cleaning material is flushed or rinsed through the application equipment in a contained manner that will minimize evaporation into the atmosphere; or
- (v) 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) 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 in writing prior to use by the Air Pollution Control Officer.

(5) 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.

(6) 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), and/or (d)(4) of this rule, a 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 operations, and/or equipment cleaning and surface preparation operations, and transports the captured emissions to an air pollution control device; and

(iii) Has a combined emissions capture and control device efficiency of at least 85% by weight or an alternate emission control efficiency equivalent to or greater than the level of control achieved by complying with the applicable VOC limits specified in Subsections (d)(2), (d)(3), and (d)(4). The alternate emission control efficiency shall be calculated according to a procedure approved in advance by the Air Pollution Control Officer and U.S. Environmental Protection Agency (EPA); and

(iv) 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 Subsection (e)(1)(iii) may be determined by VOC emissions source testing and/or evaluating continuous monitoring data.

(2) A person electing to use an air pollution control system pursuant to 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 recordkeeping 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) RECORDKEEPING

All records required by this rule shall be retained onsite for at least five years and be made available to the District upon request.

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

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

(A) The manufacturer 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, surface preparation, and cleaning material; and

(B) Mix ratio of components; and

(C) VOC content expressed in either grams per liter, as applied, less water and exempt compounds, 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

(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) of this rule.

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

(iv) At a minimum, maintain monthly records of the amount of each stripper, surface preparation and cleaning material used.

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

(2) For each material that is not in compliance with Subsections (d)(2), (d)(3), and (d)(4) maintain daily usage records for all coatings, thinners, and other VOC containing materials.

(3) 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, surface preparation and/or cleaning materials not in compliance with Subsection (d)(2), (d)(3), or (d)(4) of this rule, maintain daily records of the amount of each coating or each coating component for multi-component coatings, stripper, surface preparation and cleaning material used; and

(iii) Maintain records of all monitoring pursuant to Subsection (e)(1)(iv) and all other data necessary to demonstrate compliance with control requirements as determined by the Air Pollution Control Officer.

(g) TEST METHODS

(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 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)(i), or (d)(4)(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 Subsection (d)(2) 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 D3792-99, D4017-02 and D4457-02, or their most current versions.

(5) Measurement of the initial boiling point of cleaning and surface preparation materials subject to Subsections (d)(3)(ii) or (d)(4)(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 Subsections (d)(3)(iii) or (d)(4)(iii) of this rule shall be conducted in accordance with the District's "Procedures for Estimating the Vapor Pressure of VOC Mixtures." If the vapor pressure of the liquid mixture, as calculated by this procedure, exceeds the limits specified in Subsections (d)(3)(iii), or (d)(4)(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 ASTM Standard Practice E168-99, E169-99, or E260-96 (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, or its most current version shall be corrected for partial pressure of water and exempt compounds.

(7) Measurement of solvent losses from alternate application cleaning equipment subject to Subsection (d)(4)(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 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 in writing 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.

(9) Measurements 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, Appendix A) and in accordance with a protocol approved in writing by the Air Pollution Control Officer.

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