



**Air Pollution Control Board**  
Greg Cox            District 1  
Dianne Jacob       District 2  
Pam Slater          District 3  
Ron Roberts         District 4  
Bill Horn            District 5

**Air Pollution Control District**  
R. J. Sommerville    Director

DATE:            August 13, 1997  
TO:                Air Pollution Control Board  
SUBJECT:        Adoption of Amendments to Rule 67.11 (Wood Products Coating Operations)

**SUMMARY:**

Rule 67.11 regulates volatile organic compound (VOC) emissions from coating (painting and varnishing) wood furniture and other wood products including associated cleanup operations. VOCs are ozone precursors.

The current rule requires compliance with stringent VOC limits for specified topcoats, sealers and stains used on new wood products by July 1, 1997. The District has concluded these limits are not yet practical for all applications and is proposing to delay the compliance dates to July 1, 2005. This will provide additional time for coating manufacturers to further improve water-based technology, and allow the wood coating industry to transition to waterborne or other low VOC content paints. The amendments also update test methods and definitions, and provide other minor clarifications.

Rule 67.11 affects 150 companies emitting approximately 235 tons of VOCs per year. The amendments will result in a short-term delay in reducing of 17 tons per year (0.068 tons per day) of VOC emissions assuming, as the worst case, that no affected businesses will be able to use water-based coatings. For comparison, the VOC emissions from all stationary sources in San Diego County are approximately 100 tons per day.

A draft Negative Declaration has been prepared pursuant to the California Environmental Quality Act. The District has concluded the proposed delay will not result in a significant impact on the environment, nor interfere with the District's Rate-of-Progress plan for attaining the National Ambient Air Quality Standard for ozone.

**Issue**

Should the Board adopt amendments to Rule 67.11 (Wood Products Coating Operations) to delay implementing VOC limits not yet practicable for all applications?

**Recommendation**

AIR POLLUTION CONTROL OFFICER:

- (1) Adopt the resolution amending Rule 67.11 and make appropriate findings:
  - (i) of necessity, authority, clarity, consistency, non-duplication and reference as required by Section 40727 of the State Health and Safety Code;

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- (ii) that amended Rule 67.11 will alleviate a problem and would not interfere with attainment of ambient air quality standards (Section 40001 of the State Health and Safety Code);
  - (iii) that an assessment of socioeconomic impacts of the proposed amendments is not required by Section 40728.5 of the State Health and Safety Code because the proposed amendments do not significantly affect air quality or emission limitations and do not interfere with the District's adopted plan to attain the ambient air quality standards;
  - (iv) that an Initial Study was prepared by the District pursuant to the California Environmental Quality Act, and the Initial Study revealed no substantial evidence that the proposed amendments to Rule 67.11 may have a significant effect on the environment;
  - (v) that a proposed Negative Declaration was prepared pursuant to the California Environmental Quality Act and that public notice and a public review period were provided for the proposed Negative Declaration; that no comments were received during said public review period; and that considering the initial study and proposed Negative Declaration and the entire record before the Board, a finding be made by the Board in the exercise of its independent judgment that the proposed amendments to Rule 67.11 will not have a significant effect on the environment, and that an Environmental Impact Report need not be prepared.
  - (vi) that there is no evidence in the record as a whole that the proposed amendments to Rule 67.11 will have an adverse effect on wildlife resources, and on the basis of substantial evidence, the presumption of adverse effect in California Code of Regulations, Title 14, Section 753.5(d) has been rebutted.
- (2) Approve the Certificate of Fee Exemption for De Minimis Impact Finding exempting the District from payment of fees to the California Department of Fish and Game.

### **Advisory Statement**

There was no quorum at the July 23, 1997 meeting of the Air Pollution Control Advisory Committee. The members present recommended adopting the proposed amendments to Rule 67.11.

### **Fiscal Impact**

Adopting the proposed amendments will have no fiscal impact on the District.

### **Alternatives**

Not adopt the proposed amendments. New, more stringent VOC limits will be in effect in San Diego County. It will result in hardship to the affected wood coating facilities and may force some of them out of business. Accordingly, this alternative is not recommended.

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**Additional Information**

Attachment I contains additional background information, information on compliance with Board policy on adopting new rules, additional information on Socioeconomic Impact Assessment requirements, and information on compliance with the California Environmental Quality Act.

Attachment II contains the Resolution amending Rule 67.11.

Attachment III contains the report for the workshop held on March 26, 1997.

Attachment IV contains the Initial Study and Negative Declaration for the rule amendments necessary to comply with the requirements of the California Environmental Quality Act.

Concurrence:

Respectfully submitted,

LAWRENCE B. PRIOR III  
Chief Administrative Officer

BY: ROBERT R. COPPER  
Deputy Chief Administrative Officer



R. J. SOMMERVILLE  
Air Pollution Control Officer

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④ 7/22/97

COUNTY COUNSEL APPROVAL: Form and Legality  Yes  N/A  
 Standard Form  Ordinance  Resolution

CHIEF FINANCIAL OFFICER/AUDITOR REVIEW:  Yes  N/A  
4 VOTES:  Yes  No

CONTRACT REVIEW PANEL:  Approved \_\_\_\_\_  N/A

PREVIOUS RELEVANT BOARD ACTION: 3/14/89, APCB Item #3-3A  
12/18/90, APCB Item #6-6A  
5/15/96, APCB Item # 2

BOARD POLICIES APPLICABLE: N/A

CONCURRENCES: N/A

ORIGINATING DEPARTMENT: San Diego County Air Pollution Control District

CONTACT PERSON: Richard Smith, Deputy Director (S50)694-3303 MS: 0-176



R. J. SOMMERVILLE, APCO  
DEPARTMENT AUTHORIZED REPRESENTATIVE

AUGUST 13, 1997  
MEETING DATE

## ATTACHMENT I

### ADOPTION OF AMENDMENTS TO RULE 67.11 (WOOD PRODUCTS COATING OPERATIONS)

#### Additional Background Information

Rule 67.11 was first adopted in 1989 to control VOC emissions from wood furniture coating and associated cleaning operations. It was amended in 1990 to correct deficiencies identified by EPA and expand its applicability to all wood products. The rule established a two-step compliance schedule with progressively lower VOC standards for topcoats, sealers and stains with a final compliance date in July 1995. The first step limited the average VOC content of coatings to 550 grams per liter. This limit could be achieved by replacing conventional solvents with negligible photochemical reactivity compounds. The second step required using coatings with an average VOC content of approximately 300 grams per liter. These coatings were not generally available at the time; hence the VOC limits were technology forcing. They required developing water-based coatings, or radiation-curable (UV and electron beam) coatings.

Most wood coating manufacturers complied with the first level of VOC limits by partly substituting the exempt compound 1,1,1-trichloroethane (TCA) for VOC's. However, TCA causes stratospheric ozone depletion. Its production was banned effective January 1996.

To find acceptable alternatives, in 1995 the District reviewed the status of water-based and radiation-curable technology. It was concluded that low VOC water-based coatings are available for many wood products but most have problems related to application and finished product quality. This technology requires significant process changes including additional sanding as a result of wood grain raising, and some modifications of paint application equipment. Because they have a longer drying time, water-based coatings also require additional heating equipment such as drying ovens, drying tunnels, or heat lamps resulting in additional capital and operational expenses. Radiation-curable coatings are being used by some large furniture manufacturers; however, this technology uses sophisticated equipment, requires significant capital along with additional operational expenses, and is not a realistic alternative for medium-size or small businesses.

Because of these problems, Rule 67.11 was amended in 1995 to increase the VOC limits for some coatings previously based on TCA and adjust the technology forcing limits for other coatings. Compliance was extended to July 1, 1997.

The District recently reviewed coatings meeting the 1997 limits for a variety of wood products. The most current information from coating manufacturers, users and other air districts, indicates these coatings are not yet practical for all applications. Specifically, they do not provide the minimum quality necessary for expensive furniture, wood shutters, musical instruments and other specialized products. The conversion to water-based technology is also costly. While large facilities may have enough resources to absorb the cost of such conversion, it is often cost-prohibitive for many small businesses. The three largest facilities in San Diego County are already using complying water-based paints to meet New Source Review rule requirements, and must continue to do so. However, 147 out of 150 wood coating facilities subject to the rule are small businesses.

As a result, the District is proposing to amend Rule 67.11 to establish a new July 2005 deadline for complying with the lower VOC limits for clear topcoats, pigmented topcoats, sealers, high and low-solids stains, medium-density fiberboard coatings and non-specialty coatings used on new wood products. This will provide additional time for coating manufacturers to make further

improvements in water-based technology, and allow the wood coating industry to make the transition to waterborne or other low VOC content paints. Some other air districts in California have also recognized this problem and delayed implementation dates.

The District has not proposed interim VOC limits based on the availability of acetone-based wood coatings because this technology is new and the limited experience of those using these coatings has shown there are a number of performance and safety problems. Moreover, the additional emission reductions that could be obtained by including interim lower VOC limits are negligible. The District will continue to monitor the use and effectiveness of these coatings and propose revisions to Rule 67.11 if appropriate, at a later date.

The amendments also update test methods for determining compliance, update definitions for consistency with other District coating rules and make other minor clarifications.

The proposed changes will result in a short-term delay of 17 tons per year of VOC emission reductions assuming, as the worst case, that no affected businesses will use water-based coatings. The District has determined this delay will not affect the District's Rate-of-Progress plan toward attaining the National Ambient Air Quality Standard for ozone, or the District's demonstration that the standard will be attained by December 31, 1999 as required by the Federal Clean Air Act.

Rule 67.11 was submitted to EPA in 1995 for incorporation into the State Implementation Plan (SIP). However, the more stringent 1997 VOC limits were not submitted because of the uncertain state of low VOC technology. Because EPA has not acted on the 1995 submittal, the District can extend the deadlines without EPA approval. The District will submit these amendments to EPA as a SIP revision without including the future 2005 limits. This will ensure EPA will not enforce the new lower limits on local businesses if these limits cannot be achieved by 2005.

### **Compliance with Board Policy on Adopting New Rules**

On February 2, 1993, the Board directed that, with the exception of a regulation requested by business or a regulation for which a socioeconomic impact assessment is not required, no new or revised regulation shall be implemented unless specifically required by federal or state law. The proposed amendments to Rule 67.11 are consistent with this Board directive because they do not require a socioeconomic impact assessment and will provide needed relief for small businesses.

### **Socioeconomic Impact Assessment**

Section 40728.5 of the State Health and Safety Code requires the District to perform a socioeconomic impact assessment for new and revised rules and regulations significantly affecting air quality or emission limitations. New and revised rules and regulations that result in less restrictive emissions limits are exempt from this requirement if the action does not interfere with the District's adopted plan to attain the ambient air quality standards and does not result in any significant increase in emissions. The proposed amendments to Rule 67.11 will postpone more restrictive VOC emission limits and subsequently delay about 17 tons per year of VOC emission reductions. However, this action will not interfere with the District plan to attain National Ambient Air Quality Standard for ozone in 1999 as required by the federal Clean Air Act because the final emission limits and the associated emission reductions were not included in the District attainment demonstration. Therefore, a socioeconomic impact assessment is not required by state law.

### **California Environmental Quality Act**

An environmental review consistent with the California Environmental Quality Act has been prepared because the amendments to Rule 67.11 will result in a temporary delay of 17 tons per year of VOC emission reductions. The 1994 Rate of Progress Plan for the San Diego Air Basin indicated that the National Ambient Air Quality Standard (NAAQS) for ozone can be attained even if an additional 150 tons per year of VOCs were emitted from all sources in San Diego County. In comparison, the temporary loss of VOC emission reductions from the proposed amendments to Rule 67.11 is not significant.

An Initial Study conducted by the District concluded this will not cause a significant effect on the environment. A draft Negative Declaration was prepared pursuant to the California Environmental Quality Act and it was determined that the potential short-term loss of VOC emission reductions will not amount to a significant impact on the environment, and there is no substantial evidence that any aspect of the proposed changes may result in a significant effect upon the environment.

No comments were received during the comment review period.

Based on the entire record and including the information contained in the Initial Study, there is also no evidence that the proposed amendments to Rule 67.11 may have any potential adverse effect on wildlife resources or the habitat upon which upon which wildlife depends. On the basis of substantial evidence, the District has rebutted the presumption of adverse effect in California Code of Regulations, Title 14, Section 753.5(d).

NZ:ls  
7/22/97

**RESOLUTION AMENDING RULE 67.11  
OF REGULATION IV  
OF THE RULES AND REGULATIONS OF THE  
SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT**

On motion of Member Slater, seconded by Member Roberts  
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 had relating to the amendment of said Rules and Regulations pursuant to Section 40725 of the Health and Safety Code.

**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:

Proposed amendments to Rule 67.11, Sections (c), (d) and (g) are to read as follows:

**RULE 67.11 WOOD PRODUCTS COATING OPERATIONS**

**(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 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 the following:

(i) A stationary source which applies less than 500 gallons of coatings to wood products in every consecutive twelve-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 on-site for three years and made available to the District upon request.



- (ii) 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 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) "**Binder**" means a non-volatile polymeric organic material, such as a resin, which forms a surface film during coating applications.
- (3) "**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.
- (4) "**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 dries or cures to form a continuous solid film, including but not limited to any paint, sealer, varnish, or lacquer, and excluding any adhesives. Coating also includes stains, inks, fillers, washcoats, and toners.
- (5) "**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.
- (6) "**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.
- (7) "**Dip Coat**" means a coating application method accomplished by dipping an object into the coating material.
- (8) "**Electrostatic Spray**" means a coating application method accomplished by charging atomized paint particles for deposition by electrostatic attraction.
- (9) "**Exempt Compound**" means the same as defined in Rule 2.
- (10) "**Filler**" means a material used to fill in cracks, grains and imperfections of wood before applying a coating.
- (11) "**Flow Coat**" means a coating application method accomplished by flowing a stream of coating over an object.

(12) **"Glaze Stain"** means a semitransparent tinted coating applied on a previously coated surface to produce a decorative effect.

(13) **"Hand Application Method"** means a coating application method accomplished by applying a coating by manually held, non-mechanically operated equipment. Such equipment includes paint brushes, hand rollers, rags and sponges.

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

(15) **"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.

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

(17) **"Low-Solids Coating"** means a coating containing one pound of solids per gallon, or less.

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

(19) **"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.

(20) **"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.

(21) **"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.

(22) **"Pigmented Coating"** means an opaque coating containing binders and colored pigments, and formulated to hide the wood surfaces.

(23) **"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.

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

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

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

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

(28) **"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.

(29) **"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.

(30) **"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.

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

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

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

(34) **"Wash Coat"** 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 wash coat 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.

(35) **"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 Equipment**

Except as provided in Subsection (b)(2), no coatings shall be applied 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 spray, or
- (vi) High-volume low-pressure (HVL) spray, 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 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 for New Wood Products

(i) Except as provided in Subsection (d)(2)(ii), on and after (*date of adoption*) a person shall not apply any coating to a new wood product with a VOC content in excess of the following limits expressed as grams of VOC per liter of coating (pounds of VOC per gallon of coating) as applied, excluding 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 Coating	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 grams of VOC per liter of material (pounds of VOC per gallon of material) as applied:

<u>CATEGORY</u>	<u>VOC LIMIT</u>	
	<u>g/L</u>	<u>lb/gal</u>
Low-Solids Stains, Toners or Wash Coats	700	5.8

(iii) Except as provided in Subsection (d)(2)(iv), 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 grams of VOC per liter of coating (pounds of VOC per gallon of coating) as applied, excluding 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	500	4.2
High-Solids Stains	550	4.6
Inks	500	4.2
Medium Density Fiberboard (MDF) Coatings	550	4.6
Multi-Colored Coatings	685	5.7
Pigmented Coatings	275	2.3
Sealers	550	4.6
Any Other Coating	275	2.3

(iv) On and after July 1, 2005, 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 grams of VOC per liter of material (pounds of VOC per gallon of material) as applied:

<u>CATEGORY</u>	<u>VOC LIMIT</u>	
	<u>g/L</u>	<u>lb/gal</u>
Low-Solids Stains, Toners or Wash Coats	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 Limits for Refinished Wood Products

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

<u>CATEGORY</u>	<u>VOC LIMITS</u>	
	<u>g/L</u>	<u>lb/gal</u>
Clear Topcoats	680	5.7
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 Coating	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 limit expressed as grams of VOC per liter of material (pounds of VOC per gallon of material) as applied:

<u>CATEGORY</u>	<u>VOC LIMIT</u>	
	<u>g/L</u>	<u>lb/gal</u>
Low-Solids Stains, Toners or Wash Coats	700	5.8

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 and Stripping Materials

Except as provided in subsection (d)(5), a person shall not use VOC containing materials for surface preparation or 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 material has a total VOC vapor pressure of 20 mm Hg or less, at 20°C (68°F).

(5) Cleaning of 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 by the Air Pollution Control Officer prior to use.

(6) 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.

(7) 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) and/or (d)(5) 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, 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 percent by weight.

(2) A person electing to use control equipment 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 shall be retained on-site for at least three years and shall be made available to the District upon request.

(1) Any person subject to the provisions of Subsections (d)(2), (d)(3), (d)(4) and/or (d)(5) 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) 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, 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.

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

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

(iv) Maintain daily or 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) 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 Subsections (d)(2), (d)(3), (d)(4) or (d)(5) 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 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.

**(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 a facility operator identifies the specific individual compound(s) and the amount(s) present in the material and provides an EPA and ARB 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 June 27, 1995.

(3) Measurement of the VOC content of coatings, surface preparation and cleaning materials subject to Subsections (d)(2), (d)(3), (d)(4)(i), or (d)(5)(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) and/or (d)(3) of this rule shall be conducted in accordance with ASTM Standard Test Method D5403-93. Measurement of the water content and exempt solvent content, if applicable, shall be conducted and reported in accordance with ASTM Standard Test Methods D 3792-91 and D 4457-85.

(5) Measurement of the initial boiling point of cleaning and surface preparation materials subject to Subsection (d)(4)(ii) and/or (d)(5)(ii) of this rule shall be conducted in accordance with ASTM Standard Test Method D1078-95 for distillation range of volatile organic liquids.

(6) Calculation of total VOC vapor pressure for materials subject to Subsection (d)(4)(iii) and/or (d)(5)(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)(4)(iii) and/or (d)(5)(iii), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-96. The solvent composition shall be determined using one of the following ASTM standard recommended practices: E 168-92, E169-93 or E 260-91. The fraction of water and exempt compounds in the liquid phase shall be determined by using ASTM Standard Test Methods D3792-91 and D4457-85 and shall be used to calculate the partial pressure of water and exempt com-



pounds. The results of vapor pressure measurements obtained using ASTM Test Method D2879-96 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)(5)(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 June 27, 1995.

(8) Measurement of control device efficiency subject to Subsection (e)(1) of this rule shall be conducted in accordance with EPA Methods 18 and/or 25A (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) of this rule shall be determined according to EPA's technical document, "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, stains and toners pursuant to Subsections (c)(14), (c)(17), (c)(18), (c)(28) and (c)(34) of this rule shall be conducted in accordance with EPA Test Method 24 (40 CFR 60, Appendix A).

**IT IS FURTHER RESOLVED AND ORDERED** that the subject amendments to Rule 67.11 of Regulation IV shall take effect upon adoption.

**PASSED AND ADOPTED** by the Air Pollution Control Board of the San Diego County Air Pollution Control District, State of California, this 13th day of August, 1997 by the following votes:

**AYES:** Jacob, Slater, Roberts, Horn  
**NOES:**  
**ABSENT:** Cox

This is a true certified copy of the original document on file or of record in my office. It bears the seal of the County of San Diego and signature of the Clerk of the Board of Supervisors, imprinted in purple ink.

*Thomas J. Pastaglen*

Clerk of the Board, San Diego County, California

Date: 8/14/97 by Deputy: Frank V. Jealanga



APPROVED AS TO FORM AND LEGALITY  
COUNTY COUNSEL

BY: Dutton  
DEPUTY

AIR POLLUTION CONTROL DISTRICT  
COUNTY OF SAN DIEGO

CHANGE COPY  
PROPOSED AMENDMENTS TO RULE 67.11

Proposed amendments to Rule 67.11, Sections (c), (d) and (g) are to read as follows:

**RULE 67.11 WOOD PRODUCTS COATING OPERATIONS**

(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 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 the following:
  - (i) A stationary source which applies less than 500 gallons of coatings to wood products in every consecutive twelve-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 on-site for three years and made available to the District upon request.
  - (ii) 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 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) "**Binder**" means a non-volatile polymeric organic material, such as a resin, which forms a surface film during coating applications.
- (3) "**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.

(4) **"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 dries or cures to form a continuous solid film, including but not limited to any paint, ink, sealer, varnish, or lacquer, and excluding any adhesives. Coating also includes stains, inks, fillers, washcoats, and toners.

(5) **"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.

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

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

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

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

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

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

(12) **"Glaze Stain"** means a semitransparent tinted coating applied on a previously coated surface to produce a decorative effect.

(13) **"Hand Application Method"** means a coating application method accomplished by applying a coating by manually held, non-mechanically operated equipment. Such equipment includes paint brushes, hand rollers, rags and sponges.

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

(15) **"High-Volume Low-Pressure (HVLP) 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.

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

(17) **"Low-Solids Coating"** means a coating containing one pound of solids per gallon, or less.

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

(19) **"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.

(20) **"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.

(21) **"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.

(22) **"Pigmented Coating"** means an opaque coating containing binders and colored pigments, and formulated to hide the wood surfaces.

(23) **"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.

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

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

(26) **"Stationary Source"** means the same as defined in Rule 2 20-1.

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

(28) **"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.

(29) **"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.

(30) **"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.

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

~~any volatile compound of carbon, which may be emitted to the atmosphere during operations or activities subject to this rule, except methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonates, and exempt compounds.~~

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

~~weight of VOC per combined volume of VOC and coating solids and is calculated by the following equation:~~

$$C_{c\text{voc}} = (W_s - W_w - W_{es}) / (V_m - V_w - V_{es})$$

where:

$C_{e\text{voc}}$	=	VOC content per volume of coating, less water and exempt compounds
$W_s$	=	weight of volatile compounds including water and exempt compounds
$W_w$	=	weight of water
$W_{es}$	=	weight of exempt compounds
$V_m$	=	volume of material including water and exempt compounds
$V_w$	=	volume of water
$V_{es}$	=	volume of exempt compounds

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

weight of VOC per volume of material and is calculated by the following equation:

$$C_{m\text{voc}} = (W_s - W_w - W_{es}) / V_m$$

where:

$C_{m\text{voc}}$	=	VOC content per volume of material
$W_s$	=	weight of volatile compounds including water and exempt compounds
$W_w$	=	weight of water
$W_{es}$	=	weight of exempt compounds
$V_m$	=	volume of material including water and exempt compounds

(34) "**Wash Coat**" 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 wash coat 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.

(35) "**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 Equipment

Except as provided in Subsection (b)(2), no coatings shall be applied 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 spray, or
- (vi) High-volume low-pressure (HVLV) spray, 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 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 for New Wood Products

(i) Except as provided in Subsection (d)(2)(ii), on and after ~~June 27, 1995~~ (date of adoption) a person shall not apply any coating to a new wood product with a VOC content in excess of the following limits expressed as grams of VOC per liter of coating (pounds of VOC per gallon of coating), as applied, excluding water and exempt compounds :

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

(ii) ~~On and after June 27, 1995~~ a 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 grams of VOC per liter of material (pounds of VOC per gallon of material) as applied:

<u>CATEGORY</u>	<u>VOC LIMIT</u>	
	<u>g/L</u>	<u>lb/gal</u>
Low-Solids Stains, Toners or Wash Coats	700	<u>5.8</u>

(iii) Except as provided in Subsection (d)(2)(iv), on and after July 1, ~~1997~~ 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 grams of VOC per liter of coating (pounds of VOC per gallon of coating), as applied, excluding water and exempt compounds:

<u>CATEGORY</u>	<u>VOC LIMITS</u>	
	<u>g/L</u>	<u>lb/gal</u>
Clear Topcoats	275	<u>2.3</u>
Conversion Varnishes	550	<u>4.6</u>
Fillers	500	<u>4.2</u>
High-Solids Stains	550	<u>4.6</u>
Inks	500	<u>4.2</u>
Medium Density Fiberboard (MDF) Coatings	550	<u>4.6</u>
Multi-Colored Coatings	685	<u>5.7</u>
Pigmented Coatings	275	<u>2.3</u>
Sealers	550	<u>4.6</u>
Any Other Coating	275	<u>2.3</u>

(iv) On and after July 1, 1997 ~~2005~~, 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 grams of VOC per liter of material (pounds of VOC per gallon of material), as applied:

<u>CATEGORY</u>	<u>VOC LIMIT</u>	
	<u>g/L</u>	<u>lb/gal</u>
Low-Solids Stains, Toners or Wash Coats	480	<u>4.0</u>

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 Limits for Refinished Wood Products

(i) Except as provided in Subsection (d)(3)(ii), ~~on and after June 27, 1995~~, a person shall not apply any coating to a refinished wood product with a VOC content in excess of the following limits expressed as grams of VOC per liter of coating (pounds of VOC per gallon of coating), as applied, excluding water and exempt compounds :

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

(ii) ~~On and after June 27, 1995, a~~ A person shall not apply the following low-solids coatings to a refinished wood product with a VOC content in excess of the following limit expressed as grams of VOC per liter of material (pounds of VOC per gallon of material), as applied:

<u>CATEGORY</u>	<u>VOC LIMIT</u>	
	<u>g/L</u>	<u>lb/gal</u>
Low-Solids Stains, Toners or Wash Coats	700	<u>5.8</u>

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 and Stripping Materials

Except as provided in subsection (d)(5), a person shall not use VOC containing materials for surface preparation or 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 material has a total VOC vapor pressure of 20 mm Hg or less, at 20° C (68° F).

(5) Cleaning of 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 by the Air Pollution Control Officer prior to use.



(6) 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.

(7) 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) and/or (d)(5) 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, 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 percent by weight.

(2) A person electing to use control equipment 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 shall be retained on-site for at least three years and shall be made available to the District upon request.

(1) Any person subject to the provisions of Subsections (d)(2), (d)(3), (d)(4) and/or (d)(5) 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) 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, 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.

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

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

(iv) Maintain daily or 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) 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 Subsections (d)(2), (d)(3), (d)(4) or (d)(5) 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 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.

**(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 a facility operator identifies the specific individual compound(s) and the amount(s) present in the material and provides an EPA and ARB 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 June 27, 1995 .

(3) Measurement of the VOC content of coatings, surface preparation and cleaning materials subject to Subsections (d)(2), (d)(3), (d)(4)(i), or (d)(5)(i) of this rule shall be conducted in accordance with EPA Test Method 24 (40 CFR 60, Appendix A)-as it exists on June 27, 1995.

(4) Measurement of the VOC content of ultraviolet radiation-cured coatings subject to Subsections (d)(2) and/or (d)(3) of this rule shall be conducted in accordance with ASTM Standard Test Method D5403-93. Measurement of the water content and exempt solvent content, if applicable, shall be conducted and reported in accordance with ASTM Standard Test Methods D 3792-91 and D 4457-85.

(5) Measurement of the initial boiling point of cleaning and surface preparation materials subject to Subsection (d)(4)(ii) and/or (d)(5)(ii) of this rule shall be conducted in accordance with ASTM Standard Test Method D1078-86 95 for distillation range of volatile organic liquids.

(6) Calculation of total VOC vapor pressure for materials subject to Subsection (d)(4)(iii) and/or (d)(5)(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)(4)(iii) and/or (d)(5)(iii), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-86 96. The solvent composition shall be determined using one of the following ASTM standard recommended practices: E 168-92, E169-93 or E 260-91. The fraction of water and exempt compounds in the liquid phase shall be determined by using ASTM Standard Test Methods D3792-91 and D4457-85 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 D2879-86 96 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)(5)(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 June 27, 1995.

(8) Measurement of control device efficiency subject to Subsection (e)(1) of this rule shall be conducted in accordance with EPA Methods 18 and/or 25A (40 CFR 60) as they exist on June 27, 1995 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) of this rule shall be determined according to EPA's technical document, "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, stains and toners pursuant to Subsections (c)(14), (c)(17), (c)(18), (c)(28) and (c)(34) of this rule shall be conducted in accordance with EPA Test Method 24 (40 CFR 60, Appendix A).

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

**RULE 67.11 - WOOD PRODUCTS COATING OPERATIONS**

**WORKSHOP REPORT**

A workshop notice was mailed to all companies known to operate wood products coating facilities in San Diego county. Notices were also mailed to all Chambers of Commerce and all Economic Development Corporations in the county, the U. S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and other interested parties.

The workshop was held on March 26, 1997 and was attended by 12 people. Written comments were also received. The workshop comments and the District responses are as follows:

**1. WORKSHOP COMMENT**

Can a wood product painted in the shop and later installed in a building be refinished on site using wood coating applied originally in the shop?

**DISTRICT RESPONSE:**

The coating of wood products after they are installed in a building is subject to District Rule 67.0 which regulates the VOC content of coatings applied to stationary structures and their appurtenances. The volatile organic compound (VOC) limits in Rule 67.0 are more stringent than those in Rule 67.11. If the coating used in the shop also complied with the VOC limits of Rule 67.0 - Architectural Coatings, the same coating could be used. If this coating does not comply with Rule 67.0, it cannot be used for the refinishing of a wood product installed in the building. In this case, another coating which complies with Rule 67.0 VOC limits must be found. Such coatings are available and are being used throughout Southern California.

**2. WORKSHOP COMMENT**

Conversion varnishes release formaldehyde, a toxic material, during curing (polymerization). At some facilities, the District limits emissions of formaldehyde through permit conditions by restricting production throughput. Does the District have a rule that regulates the emissions of formaldehyde?

**DISTRICT RESPONSE:**

Yes. Formaldehyde is classified as a hazardous air pollutant (HAP) by the federal EPA and is also considered a toxic air contaminant by California law. Emissions of toxic air contaminants, including formaldehyde, from new and modified operations are regulated by District Rule 1200, Toxic Air Contaminants - New Source Review. This rule requires the District to conduct a health risk assessment of toxic air contaminant emissions from a new or modified operation to ensure that any potential public health risks are kept below specified acceptable levels. As a result of such analysis, emissions of formaldehyde, which are a function of production throughput, may be limited by permit conditions to ensure that acceptable public health risk levels are not exceeded.

In addition, the state Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) program requires a periodic inventory of existing facilities emitting toxic air contaminants. If the toxic emissions from a facility are potentially significant, the facility must conduct a Health Risk Assessment which may result in the need for public notification and risk reduction through reduction in emissions of toxic air contaminants.

**3. WORKSHOP COMMENT**

Was a public workshop held during the development of Rule 1200?

**DISTRICT RESPONSE:**

Yes. California Health and Safety Code requires the District to hold public workshops for all new and modified rules. District policy is to provide a public notice for workshops at least 30 days in advance for all new or amended rules. This was done for Rule 1200. A public workshop was held on June 22, 1995.

**4. WORKSHOP COMMENT**

What does the term "exempt compounds" mean?

**DISTRICT RESPONSE:**

"Exempt compounds" are defined as compounds that do not participate in photochemical reactions resulting in smog formation because they have negligible photochemical reactivity. District Rule 2 - Definitions, includes a list of currently exempt compounds.

**5. WORKSHOP COMMENT**

Why is conversion varnish topcoat excluded from the definition of clear topcoat?

**DISTRICT RESPONSE:**

Conversion varnishes are excluded from the definition of clear topcoats because they can meet VOC content limits lower than the clear topcoats limit of 680 grams/liter. Based on information available to the District, current conversion varnish topcoats with a VOC content of 550 grams/liter produce acceptable finishes.

**6. WORKSHOP COMMENT**

Subsection (d)(2)(iii) specifies the VOC limit for clear conversion varnish as 550 grams/liter. The limit for pigmented coatings that would include pigmented conversion varnishes by definition is 275 grams/liter. However, such low content VOC varnishes are not technologically feasible. At present, they cannot be formulated with the VOC content less than 550 grams/liter. The District should revise the definition of clear conversion varnishes to include pigmented conversion varnishes.

**DISTRICT RESPONSE:**

The District agrees. The definition of conversion varnish has been revised to include pigmented conversion varnish as suggested.

**7. WORKSHOP COMMENT**

Can the District modify permit conditions for some existing facilities to require monthly recordkeeping instead of daily recordkeeping as presently allowed by Rule 67.11?

**DISTRICT RESPONSE:**

The possibility of modifying permit conditions that apply to a wood products coating operation will depend upon New Source Review (NSR) rule applicability. If a NSR daily emission limit is applicable, permit conditions cannot be changed without a thorough evaluation by the District and finding that all applicable requirements will be met. If, however, a source's permit requires daily records because of past Rule 67.11 or Rule 66 requirements, the District will likely be able to modify permit conditions to monthly recordkeeping as allowed by Rule 67.11.

**8. WORKSHOP COMMENT**

Are facility emissions restricted by the daily emission limits specified in their permits?

**DISTRICT RESPONSE:**

Yes. Daily emission limits are generally specified in permits issued pursuant to NSR rules. NSR rules limit the amount of coatings and the corresponding VOC emissions that a facility can use or emit before requiring the application of Best Available Control Technology (BACT). If a facility complies with BACT requirements, these limits may be removed. In certain cases, the District can also convert the daily limit on a permit to either weekly or monthly limits and require corresponding recordkeeping. See also the response to Comment No. 7 above.

**9. WORKSHOP COMMENT**

What can a facility that expects to exceed permitted emission limits do to remain in compliance with District rules?

**DISTRICT RESPONSE:**

If a facility expects a temporary, short-term exceedance of permitted emission limits, it can petition for a variance from the Air Pollution Control District Hearing Board for continuation of operation during the period of noncompliance. A variance is an administrative order that grants temporary relief from District rules for a specified period of time. If the facility expects that the exceedance will be permanent or may be repeated periodically, it must apply for a permit modification to reflect any equipment or operational changes needed to maintain compliance with District rules.

**10. WORKSHOP COMMENT**

Can a facility that expects a temporary increase in emissions contact the District for an evaluation of the facility's options?

**DISTRICT RESPONSE:**

Yes. The District will arrange a pre-application meeting to provide information on applicable rule requirements and advice on the options for a facility that needs to add new equipment, modify

existing equipment, or change conditions of operation. A pre-application meeting can be requested by contacting the District's Engineering Division.

**11. WORKSHOP COMMENT**

Does the District issue variances?

**DISTRICT RESPONSE:**

No. However, the District Hearing Board, a separate entity from the District, may grant variances from District rules for periods ranging from 30 days for emergency variances and up to one year for regular variances. Variance petitions are evaluated on a case-by-case basis. In all cases, the facility is required to show good cause why it is unable to comply with the District's rules during the period of the variance. See also Response to Comment No. 9.

**12. WORKSHOP COMMENT**

Can the District provide a contact list for all District inspectors?

**DISTRICT RESPONSE:**

Yes. A District telephone list is available upon request. All District inspectors can be contacted through a message telephone at (619) 694-3340.

**13. WORKSHOP COMMENT**

Why does Rule 67.11 not allow the use of air-assisted airless spray equipment?

**DISTRICT RESPONSE:**

Rule 67.11 allows the use of any coating application method, including air-assisted airless equipment, which complies with the definition of high-volume low-pressure (HVLP) spray. HVLP is defined in Subsection (c)(15) of Rule 67.11 as 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 equipment. Many models of air-assisted airless coating application equipment can comply with this definition.

**14. WORKSHOP COMMENT**

Would the installation of complying application equipment meet the requirements of BACT?

**DISTRICT RESPONSE:**

The use of complying application equipment can be considered a part of BACT for a coating operation. BACT requirements for a facility are considered on a case-by-case basis. Depending on the size and nature of the operation, BACT could be the use of add-on air pollution control equipment or process modifications such as the use of coatings and/or solvents with low VOC content combined with the use of HVLP spray equipment.

**15. WORKSHOP COMMENT**

What criteria is used to determine if a coating application method is a high-volume low-pressure (HVLP) application method?

**DISTRICT RESPONSE:**

As defined in Subsection (c)(15) of Rule 67.11, any application method that uses high-volume and low-pressure air, between 0.1 and 10.0 psig, to apply coatings to a target surface is considered an HVLP application method. See also response to Comment No. 13.

**16. WORKSHOP COMMENT**

Is the definition of high-volume low-pressure (HVLP) spray based on achieving a 65% transfer efficiency or on the liquid pressure of the coating sprayed?

**DISTRICT RESPONSE:**

The definition of HVLP is based on the pressure of the atomizing air which affects the transfer efficiency of the spray equipment. All of the methods listed in Subsection (d)(1) are expected to provide a transfer efficiency of at least 65%. HVLP application method is one of these.

**17. WORKSHOP COMMENT**

Would an existing facility that installs new or modified equipment to increase throughput, but does not increase its current emissions, be required to install Best Available Control Technology?

**DISTRICT RESPONSE:**

It is possible. BACT is applied on an emission unit basis, not facility-wide. If the new or modified equipment has a potential to emit more than the current NSR threshold of 10 pounds per day of VOC's, the operation must apply BACT if it is cost-effective. In some cases, the facility may accept permit conditions that limit emissions to a 10 pounds per day level.

**18. WORKSHOP COMMENT**

Is there a District rule that specifies Best Available Control Technology for various sources?

**DISTRICT RESPONSE:**

Yes. District New Source Review rules (Rules 20.1, 20.2, 20.3, and 20.4) specify that BACT is required if the installation of new or modified equipment may result in an emission increase and the equipment has the potential to emit of 10 pounds per day or more. BACT for the equipment is the most stringent emission limitation or control technique that has been achieved in practice, is contained in any approved State Implementation Plan, or that has been found to be technologically feasible and cost-effective for such class or category of source(s).



**19. WORKSHOP COMMENT**

The South Coast Air Quality Management District (SCAQMD) will conduct a technology review in the year 2003, to determine the feasibility of the final VOC content limits in its Rule 1136 - Wood Products Coatings. Will the District revise Rule 67.11 based on the information obtained from the technology review?

**DISTRICT RESPONSE:**

Yes, if the technology review performed by the SCAQMD reveals that coatings exist with lower VOC contents which can produce acceptable finish for some or all categories of wood products. In addition, the District will follow any new technological development on its own and may revise Rule 67.11 in the future to reflect new technologies.

**20. WORKSHOP COMMENT**

Is the District evaluating the effectiveness of new carbon filter systems for the control of volatile organic compound (VOC) emissions during wood coating operations?

**DISTRICT RESPONSE:**

Not at this time. However, the District is collecting information from the only facility in San Diego county that utilizes carbon adsorption as add-on control for VOC emissions from wood coating operations. The district will welcome any information related to the operation and effectiveness of these systems.

**21. WORKSHOP COMMENT**

When does the District expect Rule 67.11 will be submitted to the Air Pollution Control Board for adoption?

**DISTRICT RESPONSE:**

The District expects that Rule 67.11 will be scheduled for adoption in August, 1997.

**22. EPA COMMENT**

Since Rule 67.11 requires monthly or daily usage records to substantiate the exemption in Subsection (b)(1)(i), the amount of coating being exempted should be specified per record period, i.e., gallons per day or gallons per month instead of gallons per consecutive twelve-month period.

**DISTRICT RESPONSE:**

The District disagrees. The rule's intent is to provide maximum flexibility in recordkeeping to sources exempt from the emission standards. Since additional restrictions in usage per record period will not lead to appreciable gains in emission reductions, the District will retain the consecutive twelve-month usage exemption.

**23. EPA COMMENT**

The definition of high-volume low-pressure application equipment should be changed to be consistent with the recommendation provided by the Industrial Coating Committee of the Technical Review Group in the report of their September 22, 1994 meeting.

**DISTRICT RESPONSE:**

The District disagrees. The intent of the Committee was that the air pressure be measured in the center of the air cap where the atomization of the coating occurs. The definition of HVLP provided in Subsection (c)(15) of this rule is adequate since it requires the measurement of the air pressure at the air cap. Retaining this definition also maintains consistency with other District coating rules.

**24. EPA COMMENT**

The District should establish interim limits based on acetone formulations as done by the South Coast Air Quality Management District (SCAQMD). The EPA suggests including interim VOC limits of 550 grams/liter for clear topcoats, high solids stains, pigmented coatings and sealers to be effective on the adoption date of this rule.

The EPA also suggests including interim VOC limits of 480 grams/liter for low solid stains, toners and washcoats, also to be effective on the adoption date of this rule.

**DISTRICT RESPONSE:**

The District disagrees. The suggested interim limits assume the use of acetone-based coatings. At the present time, these coatings do not result in acceptable finished product quality for all categories of products. Aside from unresolved issues of safety and high flammability, there are problems associated with the use of acetone-based coatings during periods of high humidity. Experience with acetone-based coatings is very limited and the additional emission reductions that could be obtained in San Diego County by including interim VOC limits are negligible (approximately 9 tons per year). Therefore, the District has decided not to include them in Rule 67.11 at this time. The District will continue to monitor the use and effectiveness of these coatings.

**25. EPA COMMENT**

The District should consider adopting VOC limits of 275 grams/liter for fillers, high solids stains, multicolored coatings, pigmented coatings and sealers to be effective on July 1, 2005.

Similarly for low-solids stains, toners and wash coats, the suggested limit should be 120 grams/liter also to be effective on July 1, 2005.

**DISTRICT RESPONSE:**

The District disagrees. The District believes that the current rule limits will allow the District to meet its regulatory obligations without placing an undue burden on industry. However, the District will consider amending the rule in the future if the proposed technology review by the SCAQMD in the year 2003 (or any other available information) indicates that acceptable coatings exist that meet these or other lower limits.

**26. EPA COMMENT**

Section (f) should reflect the EPA statutory record retention period of five years.

**DISTRICT RESPONSE:**

The District disagrees. The 2-year record retention is adequate for enforcement purposes and does not burden regulated facilities with high recordkeeping costs. 95% of affected facilities in San Diego county are small businesses. Furthermore, the 2-year record retention requirement in Rule 67.11 maintains consistency with other District coating rules.

GA:jo  
5/15/97



Air Pollution Control Board  
Greg Cox District 1  
Dianne Jacob District 2  
Pam Slater District 3  
Ron Roberts District 4  
Bill Horn District 5

Air Pollution Control District  
R. J. Sommerville Director

June 24, 1997

## NEGATIVE DECLARATION

1. Project Name:

Adoption of amendments to existing Rule 67.11, Wood Products Coating Operations, in the San Diego County Air Pollution Control District Rules & Regulations.

2. Project Applicant:

San Diego County Air Pollution Control District  
9150 Chesapeake Drive  
San Diego, California 92123-1096

3. Project Location:

Entire area within the boundaries of San Diego County. San Diego County is the southwestern-most county in California.

4. Project Description:

The District proposes to amend existing Rule 67.11, Wood Products Coating Operations. Existing Rule 67.11 controls emissions of volatile organic compounds (VOCs) resulting from the painting of wood products and associated cleanup operations. VOCs participate in the formation of photochemical smog. Rule 67.11 establishes VOC content limits for coatings and solvents used for these operations and specifies allowable coating application equipment, and cleaning and surface preparation methods to minimize VOC emissions. Existing Rule 67.11 also requires facilities to comply with more stringent VOC content limits by July 1, 1997, for specified topcoats, sealers and stains used on new wood products.

The proposed amendments to Rule 67.11 would extend the compliance dates for these more stringent limits for clear topcoats, high solid stains, pigmented coatings, medium density fiberboard coatings, and other specified coatings applied to new wood products from July 1, 1997 to July 1, 2005. In addition, the proposed amendments would update definitions to provide consistency with other District rules, update test methods used to determine rule compliance, and provide other minor clarifications.

The extension of the compliance period to 2005 for implementation of 1997 limits would provide additional time for coating manufacturers to make further improvements in water-based technology and allow more time for the wood coating industry to make the transition to waterborne paints.

Some other air districts in California have also recognized this problem and delayed the implementation dates for the use of water-based coatings.

5. Finding:

The San Diego County Air Pollution Control District, acting as lead agency, has completed an Initial Study for the project pursuant to the California Environmental Quality Act. Temporary loss of projected emissions reductions, as a result of the proposed extension of the compliance dates for implementation of lower VOC limits for wood coatings applied on new products, has been analyzed relative to hypothetical compliance with the more stringent VOC limits scheduled to go into effect on July 1, 1997. Postponement of these limits will result in a temporary loss of 17 tons per year (0.068 tons/day) of VOC emission reductions. In reality, technology is not yet available for all applications to achieve compliance by July 1, 1997.

The District has shown that the primary and secondary federal National Ambient Air Quality Standard (NAAQS) for ozone can be attained even if an additional 150 tons per year of VOCs were emitted from all sources in San Diego County. Consequently, the temporary loss of 17 tons per year of VOC emissions from the proposed amendments to Rule 67.11 is not considered significant. No potential environmental impacts are associated with any other proposed amendments to the rule. Based on the Initial Study and the entire record before the District, the project will not have a significant adverse effect on the environment and the adoption of the proposed amendments to Rule 67.11, Wood Products Coating Operations, does not require preparation of an Environmental Impact Report.

**Note:** This action becomes final upon approval by the San Diego Air Pollution Control Board.

RS:jo  
6/4/97

# **INITIAL STUDY**

**San Diego Air Pollution Control District**

**Adoption of Amended Rule 67.11  
Wood Products Coating Operations**

June, 1997

Prepared by  
Natalie Zlotin

San Diego Air Pollution Control District  
9150 Chesapeake Drive  
San Diego, CA 92123-1096

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## I. INTRODUCTION

### 1. Project Name:

Adoption of amended Rule 67.11, Wood Products Coating Operations, in the San Diego County Air Pollution Control District Rules & Regulations.

### 2. Project Applicant:

San Diego County Air Pollution Control District  
9150 Chesapeake Drive  
San Diego, California 92123-1096

### 3. Project Location:

Entire area within the boundaries of San Diego County. San Diego County is the southwestern most county in California.

## II. PROJECT DESCRIPTION

The District has proposed adopting an amended version of existing Rule 67.11, Wood Products Coating Operations. The rule controls emissions of volatile organic compounds (VOC's), which participate in the formation of photochemical smog, resulting from the painting of wood products and associated cleanup operations. The current rule, originally adopted in 1989, established limits on the amount of VOC's in coatings and solvents used for these operations and specified allowable coating application equipment, and cleaning and surface preparation methods that minimize VOC emissions. The rule also required facilities to comply with more stringent VOC content limits for specified topcoats, sealers and stains used on new wood products by July 1, 1997.

Rule 67.11 is now being amended to extend the compliance dates for clear topcoats, high solid stains, pigmented coatings, medium density fiberboard coatings and general coatings applied to new wood products from July 1, 1997 to July 1, 2005. In addition, the proposed amendments update definitions for consistency with other District rules, provide updates for test methods used to determine the rule compliance and minor clarifications. Each of the proposed amendments was reviewed to evaluate whether it may have a significant adverse impact on the environment. It was determined that the only potential environmental impact would result from the proposed extension of the compliance dates for implementation of lower VOC limits for wood coatings applied on new products mentioned above. This extension may result in a temporary loss of the projected VOC emission reductions which was expected from the full implementation of Rule 67.11. The significance, if any, of this temporary loss is examined in the attached technical support document (Attachment A).

A copy of the proposed amendments to Rule 67.11 is attached.



### III. ENVIRONMENTAL CHECKLIST

	YES	MAYBE	NO
1. <b>Earth.</b> Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructure?	_____	_____	_____X_____
b. Disruptions, displacements, compaction or overcovering of the soil?	_____	_____	_____X_____
c. Change in topography or ground surface relief features?	_____	_____	_____X_____
d. The destruction, covering or modification of any unique geologic or physical features?	_____	_____	_____X_____
e. Any increase in wind or water erosion of soils, either on or off the site?	_____	_____	_____X_____
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	_____	_____	_____X_____
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	_____	_____	_____X_____
2. <b>Air.</b> Will the proposal result in:			
a. Significant air emissions for some air contaminants?	_____	_____	_____X_____
b. The creation of objectionable odors?	_____	_____	_____X_____
c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?	_____	_____	_____X_____
3. <b>Water.</b> Will the proposal result in:			
a. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?	_____	_____	_____X_____
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	_____	_____	_____X_____
c. Alterations to the course or flow of flood waters?	_____	_____	_____X_____

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	YES	MAYBE	NO
d. Change in the amount of surface water in any water body?	_____	_____	<u>  X  </u>
e. Discharge into surface waters, or any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?	_____	_____	<u>  X  </u>
f. Alteration of the direction or rate of flow of ground water?	_____	_____	<u>  X  </u>
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	_____	_____	<u>  X  </u>
h. Substantial reduction in the amount of water otherwise available for public water supplies?	_____	_____	<u>  X  </u>
i. Exposure of people or property to water related hazards such as flooding or tidal waves?	_____	_____	<u>  X  </u>
<b>4. Plant Life.</b> Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	_____	_____	<u>  X  </u>
b. Reduction of the numbers of any unique, rare or endangered species of plants?	_____	_____	<u>  X  </u>
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	_____	_____	<u>  X  </u>
d. Reduction in acreage of any agricultural crop?	_____	_____	<u>  X  </u>
<b>5. Animal Life.</b> Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?	_____	_____	<u>  X  </u>
b. Reduction of the numbers of any unique, rare or endangered species or animals?	_____	_____	<u>  X  </u>
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	_____	_____	<u>  X  </u>
d. Deterioration to existing fish or wildlife habitat?	_____	_____	<u>  X  </u>

	YES	MAYBE	NO
6. <b>Noise.</b> Will the proposal result in:			
a. Increases in existing noise levels?	_____	_____	_____X_____
b. Exposure of people to severe noise levels?	_____	_____	_____X_____
7. <b>Light and Glare.</b> Will the proposal produce new light and glare?	_____	_____	_____X_____
8. <b>Land Use.</b> Will the proposal result in a substantial alteration of the present or planned land use of an area?	_____	_____	_____X_____
9. <b>Natural Resources.</b> Will the proposal result in increases in the rate of use of any natural resource?	_____	_____	_____X_____
10. <b>Risk of Upset.</b> Will the proposal involve:			
a. A risk of an explosion or the release of hazardous substances (including, but not limited to oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	_____	_____	_____X_____
b. Possible interference with an emergency response plan or an emergency evacuation plan?	_____	_____	_____X_____
11. <b>Population.</b> Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	_____	_____	_____X_____
12. <b>Housing.</b> Will the proposal affect existing housing, or create a demand for addition housing?	_____	_____	_____X_____
13. <b>Transportation/Circulation.</b> Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	_____	_____	_____X_____
b. Effects on existing parking facilities, or demand for new parking?	_____	_____	_____X_____
c. Substantial impact upon existing transportation systems?	_____	_____	_____X_____
d. Alterations to present patterns of circulation or movement of people and/or goods?	_____	_____	_____X_____

INITIAL STUDY: Adoption of Amended Rule 67.11 - Wood Products Coating Operations

	YES	MAYBE	NO
e. Alterations to waterborne, rail or air traffic?	_____	_____	<u>  X  </u>
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	_____	_____	<u>  X  </u>
14. <b>Public Services.</b> Will the proposal have an effect upon, or result in a need for, new or altered governmental services in any of the following areas:			
a. Fire protection?	_____	_____	<u>  X  </u>
b. Police protection?	_____	_____	<u>  X  </u>
c. Schools?	_____	_____	<u>  X  </u>
d. Parks or other recreational facilities?	_____	_____	<u>  X  </u>
e. Maintenance of public facilities, including roads?	_____	_____	<u>  X  </u>
f. Other government services?	_____	_____	<u>  X  </u>
15. <b>Energy.</b> Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?	_____	_____	<u>  X  </u>
b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?	_____	_____	<u>  X  </u>
16. <b>Utilities.</b> Will the proposal result in a need for new systems, or substantial alterations to existing utilities?	_____	_____	<u>  X  </u>
17. <b>Human Health.</b> Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?	_____	_____	<u>  X  </u>
b. Exposure of people to potential health hazards?	_____	_____	<u>  X  </u>
18. <b>Aesthetics.</b> Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?	_____	_____	<u>  X  </u>

YES    MAYBE    NO

19. **Recreation.** Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?      \_\_\_\_\_      \_\_\_\_\_            x      

20. **Cultural Resources.** Will the proposal:

a. Result in the alteration of or the destruction of a prehistoric or historic archaeological site?      \_\_\_\_\_      \_\_\_\_\_            x      

b. Result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?      \_\_\_\_\_      \_\_\_\_\_            x      

c. Have the potential to cause a physical change which would affect unique ethnic cultural values?      \_\_\_\_\_      \_\_\_\_\_            x      

d. Restrict existing religious or sacred uses within the potential impact area?      \_\_\_\_\_      \_\_\_\_\_            x      

21. **Mandatory Findings of Significance.** Does the project have:

a. The potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?      \_\_\_\_\_      \_\_\_\_\_            x      

b. The potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)      \_\_\_\_\_      \_\_\_\_\_            x      

c. Impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)      \_\_\_\_\_      \_\_\_\_\_            x      

d. Environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?      \_\_\_\_\_      \_\_\_\_\_            x

#### **IV. DETERMINATION OF CONSISTENCY WITH EXISTING ZONING, PLANS, AND LAND-USE CONTROLS**

Adoption of amended Rule 67.11 will be consistent with existing zoning, plans, and other applicable land use controls.

#### **V. DETERMINATION OF DEPARTMENT OF FISH & GAME DE MINIMIS IMPACT FINDING**

Based on the information contained in the Initial Study and the entire record before the District, there is no evidence before the San Diego County Air Pollution Control District that adoption of amended Rule 67.11 will have any potential for adverse effect on wildlife resources or the habitat upon which the wildlife depends; and,

The San Diego County Air Pollution Control District has, on the basis of substantial evidence, rebutted the presumption of adverse effect set forth in California Code of Regulations, Title 14, Section 753.5 (d).

## VI. DETERMINATION OF ENVIRONMENTAL DOCUMENT

On the basis of this initial evaluation:

- I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION should be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures(s) described in the Initial Study will be applied to the project. A MITIGATED NEGATIVE DECLARATION should be prepared.
- I find the proposed project, individually and/or cumulatively, MAY have a significant effect on the environment and determine that an ENVIRONMENTAL ASSESSMENT is required.

*Natalie Zlotin*

Natalie Zlotin  
Senior Engineer  
County of San Diego  
Air Pollution Control District

*6/24/97*

Date

NZ:jo  
6/24/97

**ATTACHMENT A**

**TECHNICAL DOCUMENTATION FOR  
PROPOSED PROJECT TO ADOPT AMENDED RULE 67.11**

**June 24, 1997**

**Prepared by  
Natalie Zlotin**

**San Diego Air Pollution Control District  
9150 Chesapeake Drive  
San Diego, CA 92123-1096**



## ATTACHMENT A

### TECHNICAL DOCUMENTATION FOR PROPOSED PROJECT TO ADOPT AMENDED RULE 67.11

#### SUMMARY

This report evaluates the potential environmental impacts of adopting proposed amended Rule 67.11-Wood Products Coating Operations. Rule 67.11 regulates volatile organic compound (VOC) emissions from coating of wood furniture and other wood products and associated stripping and cleaning processes. The proposed amendments will delay until 2005 the implementation of technology-forcing VOC limits for certain coatings used on new wood products.

Temporary loss of projected emissions reductions as a result of these amendments has been analyzed relative to a hypothetical compliance with the more stringent VOC limits that would have been in effect starting July 1, 1997. Postponement of these limits will result in a temporary loss of 17 tons per year of VOC emission reductions.

The evaluation of the proposed amendments shows no significant adverse environmental impact because the amendments will not change the final VOC limits in the rule and the temporary loss of emission reductions will be insignificant. Accordingly, there will be no permanent loss of future emission reductions.

#### INTRODUCTION

San Diego County is classified as a serious non-attainment area for both federal and state ambient ozone standards. As a consequence, the District is required to reduce emissions of ozone precursors - volatile organic compounds and oxides of nitrogen.

District Rule 67.11 is a part of the District regional air quality strategy to reduce VOC emissions and to attain the ambient ozone standard by 1999. The rule controls VOC emissions from wood coating and associated cleaning operations by limiting the amount of VOC in coatings and solvents. It also contains design parameters for coating application equipment that minimizes VOC emissions and provides an alternative for facilities to comply with the VOC emission limits by using add-on control equipment.

Current Rule 67.11 sets a transition timetable for more stringent VOC content limits in some top-coats, sealers and stains with an effective date of July 1, 1997. The District is now proposing to delay the implementation date for using coatings with the lower VOC content limits until July 1, 2005. This action would result in a temporary loss of projected VOC emission reductions and hence, a potential adverse environmental impact which is evaluated below. All other proposed amendments to Rule 67.11 are administrative in nature, and will have no possible adverse environmental impact.

## **BACKGROUND INFORMATION**

Rule 67.11 was first adopted in 1989, and subsequently amended in 1995. In general, the rule's emission limits were consistent with the South Coast Air Quality Management District (SCAQMD) Rule 1136 (Wood Furniture Coating). Following Rule 1136 timetable, the original Rule 67.11 established an ambitious compliance schedule for phasing-in the low VOC content paints and solvents. The first interim set of lower VOC content limits became effective in 1991, and the second set of more stringent limits was expected to take effect in 1995.

The underlying strategy for setting progressively stricter VOC limits in both districts was that such regulatory policy would encourage paint manufacturers and users to invest in research and development of low polluting paints ("technology-forcing limits"). This strategy proved to be successful for other coating operations, such as painting of architectural structures or metal substrates, resulting in the development of a variety of low VOC content paints, mostly water-based. Over the years it resulted in a significant VOC emission reductions from coating operations. Therefore, considering the sizable Southern California market for wood coatings, it was reasonable to expect that this strategy will also work for wood coating operations and the regulatory compliance would be achieved using either water-based or exempt compounds based technology.

The majority of wood coating manufacturers supplying Southern California complied with the first set of mandated VOC content limits by partly substituting conventional organic solvents in paints with 1,1,1- trichloroethane (TCA). TCA has a negligible photochemical reactivity and therefore is exempt from the VOC related regulations ("exempt compound"). TCA was a choice ingredient for wood paint formulations because unlike water, it does not penetrate into the wood, and therefore does not affect the quality of the finished product. In addition, TCA could be used by paint manufacturing industry as a drop-in substitute for conventional solvents.

However, in the late 1980's it became evident that TCA together with other chlorinated hydrocarbons participates in a complicated chain of chemical reactions leading to the formation of chlorine radicals and subsequent depletion of stratospheric ozone. While TCA has a lower ozone depleting potential compared to other halogenated hydrocarbons, such as fluorohydrocarbons, it still plays a significant role in destroying stratospheric ozone. As a result of the international treaty (Montreal Protocol), the federal Government imposed restrictions on the TCA production and use with the final production phase-out by January 1, 1996. In addition, TCA was listed as a Hazardous Air Pollutant (HAP) by the 1990 Federal Clean Air Act Amendments and was classified as a toxic compound by the State of California. All these developments prevented further use of TCA as an ingredient in low VOC content wood coatings.

As these problems were not known at the time of the initial Rule 67.11 adoption, the District was forced to amend the rule in 1995 adjusting the technology forcing VOC limits for clear topcoats, multi-colored coatings, pigmented coatings, and sealers. This revision also established a new deadline (July 1, 1997) for compliance with the lower VOC limits for clear topcoats, pigmented topcoats, sealers, low solids stains, high solids stains, medium density fiberboard coatings and non-specialty coatings used on new wood products. It was expected, based on the information available at the time that the compliance with the rule standards will be achieved mostly by using water-based paints.

Water-based technology for wood coatings made considerable progress by the mid-1990's. However, the development of water-based paints for wood products was hindered due to their inherent disadvantages. The most important was "wood grain raising", which was a result of water absorption into the cellulose fibers with subsequent swelling. Therefore, application of water-based coatings requires an initial sealing of the wood surface with a solvent - based sealer to prevent water

penetration into the wood. In many cases it also results in the need of an additional sanding. Furthermore, transition to water-borne from solvent-based technology coatings demands modification of manufacturing process because of the difference in the application technique, longer drying time, some problems with the quality of the finish and subsequent touch-up and repair.

In 1996, the SCAQMD assessed the status of application of low VOC technology (mostly water-based paints) in wood coating operations in the South Coast region<sup>1</sup>. The assessment was based on input from meetings with wood coating users and manufacturers, site visits and surveys, and can be summarized as follows:

Water-based coatings complying with the low-VOC limits are generally available, they have been tested by many facilities in the South Coast region, and some facilities switched to coatings complying with low VOC limits.

Low-VOC water-based coatings still have some problems related to their application and the final quality of the finished product. The use of water-based coatings requires process changes including additional sanding as a result of grain raising, and an additional finish management. Because of the longer drying time, the use of water-based technology requires also additional heating equipment such as drying ovens, drying tunnels, or heat lamps. All this results in additional capital and operational expenses. In addition, Water based coatings presently available do not provide the minimum quality necessary for many applications such as high-end furniture, wood shutters, etc.

The feasibility of converting to low VOC content coatings water-based greatly varies with the size of facility and the type of wood products. The larger facilities may have enough resources to convert to low VOC technology (water-based or UV curable paints), while for small businesses it may be cost-prohibitive.

In June 1995, EPA added acetone to the list of exempt compounds because of its negligible photochemical reactivity. Because acetone can be easily used as a replacement solvent for wood coatings, some coating manufacturing companies have already reformulated conventional solvent-based paints with acetone. Acetone based coatings do not require any process changes and can be applied with the same equipment as conventional paints.

However, acetone has a lower flashpoint and much higher evaporation rate than conventional solvents used for wood coatings. This results in undesirable effect in coating appearance. Acetone is highly flammable and the storage of acetone-based coatings brings additional problems for coating users. In addition, the average VOC content for such coatings is 500 grams/liter, less exempt compounds, which is significantly higher than VOC limits of water-based paints (300 grams/liter, less water).

Another promising development in low polluting wood coating technology are radiation curable coatings, such as UV - curable coatings that have very low or no VOC emissions. These coatings are presently available and are being used by some large furniture manufacturers. However, this technology requires quite sophisticated equipment, significant capital investment and high operational expenses, and is not a realistic alternative for medium size or small businesses.

As a result of this analysis, SCAQMD staff recommended delaying the final compliance dates for low VOC coatings by eight years, to 2005, to allow more time for water-based paint manufacturing technology to improve and for the wood coating industry to adjust to new technology. In addition, the SCAQMD established interim limits for the majority of wood coatings based on acetone-based technology, with the effective date of July 1997 .

The District is proposing to postpone the 1997 compliance date until July 1, 2005, for lower VOC limits for clear topcoats, pigmented topcoats, sealers, low solids stains, high solids stains, medium density fiberboard coatings and non-specialty coatings used on new wood products. This decision was based on the information regarding the status of low VOC technology, the profile of the wood coating industry in San Diego county and its contribution to the VOC emissions in San Diego Air Basin.

The proposed delay in the implementation of 1997 VOC limits will provide additional time for coating manufacturers to make further improvements in water-based technology and will allow more time for the wood coating industry to make the transition to waterborne paints. Some other air districts in California have also recognized this problem and delayed the implementation dates for the use of water-based coatings.

Interim limits based on the availability of acetone-based wood coatings are not included in the rule at this time. This technology is new and the experience of manufacturers and users with acetone-based coatings is very limited. Aside from unresolved issues of safety and high flammability, it is clear that these coatings do not provide an acceptable finished product quality for all categories of products and there are problems associated with the use of acetone-based coatings during periods of high humidity. The additional emission reductions that could be obtained in San Diego county by including interim VOC limits are negligible (approximately 9 tons per year, 0.036 tons per day).

## DISCUSSION OF EMISSIONS

### VOC EMISSIONS

The formation of ground-level ozone is a result of a complex set of photochemical reactions involving volatile organic compounds and nitrogen oxides. Because these reactions are taking place over hours or days, the environmental impact of increased VOCs is countywide and must be analyzed in the context of the total VOC emissions in San Diego County. According to the recent estimates data the total VOC emissions in San Diego Air Basin from all man-made sources were approximately 250 tons per day, with 105 tons per day attributed to stationary sources. The total VOC emissions from all permitted sources involved in wood coating operations in San Diego County were calculated using the District emission inventory and permit files. In addition, these calculations assumed the maximum allowable VOC content of coatings and solvent usage which is considered a worst case estimate. These emissions are approximately 0.65 tons per day (163 tons per year).

There are 160 facilities in San Diego county involved in wood coating operations. Of these, ~~88~~ facilities are exempt from the rule emission standards because they use less than 500 gallons of coatings per year. These facilities are required to keep purchase records and monthly or daily records of coating usage to verify their continuous eligibility for the exemption. Their total VOC emissions are approximately 24 tons per year or ~~0.04~~ tons per day.

The rest of wood coating facilities (72) are subject to the Rule 67.11 emission standards. 37 of these facilities are using coatings which will be affected by the proposed delay in the implementation of more stringent VOC limits. They emit approximately 139 tons of VOC per year (0.56 tons/ day).

It should be noted that the vast majority of the wood coating facilities are small stationary sources of VOC emissions, which are defined<sup>2</sup> as sources having less than 100 employees and emitting less than 10 tons per year of VOCs. Only one wood coating business in San Diego county has more than 100 employees, and two other companies having less than 100 employees emit more than 10 tons

per year of VOCs. 34 out of 37 affected companies in the District are small businesses and small stationary sources (see Table 1).

The distribution of sources and emissions among all companies subject to the proposed amendments are shown in Table 2. According to District information, the largest three sources that are responsible for 23% of the total affected emissions have already converted to low VOC content paints (water-based, acetone-based or their combination) because of the emission limitations imposed by the New Source Review rules. Therefore the proposed amendments will not have any impact on the emissions from these companies because they are essentially in compliance with the majority of 1997 VOC content limits.

As seen from Table 2 the emission reductions proposed to be postponed until 2005 would come from the conversion of small companies to paints with lower VOC contents. Some of them are already using various low VOC paints whenever possible. However, as discussed above, water-based paints or UV-curable paints are not suitable for all applications and do not always provide finished product of adequate quality. Therefore, full conversion to low VOC technology is not feasible at this time for all small businesses because of the technology limitations and costs.

The projected temporary loss of the emission reduction because of the proposed amendments will be approximately 17 tons per year (0.068 tons/day). The District has shown <sup>3</sup> that the primary and secondary federal National Ambient Air Quality Standard (NAAQS) for ozone can be attained even if an additional 150 tons per year of VOCs were emitted from all sources in San Diego County. In comparison, the temporary loss of VOC emission reductions from the proposed amendments to Rule 67.11 is not significant.

#### EMISSIONS OF HAZARDOUS AIR POLLUTANTS

The proposed amendments will temporarily delay the implementation of the 1997 limits which would have required affected companies to use paints with lower VOC contents. As discussed above, it will result in the postponement of 17 tons per year of VOC emission reductions, and subsequently, the temporary loss of emission reductions of hazardous (toxic) air pollutants (HAP's) which constitute a portion of the VOCs. It is very difficult to quantify and assess the human health impacts of the proposed amendments because impacts will be localized and depend on the toxic constituent levels, toxicity, exposure, and site-specific dispersion characteristics of an emission source. The assessment is further complicated because almost all presently available water-based coatings which comply with the 1997 limits and which would be used by the majority of wood coating establishments in lieu of the VOC-based coatings also contain HAP's.

Typical conventional wood coatings contain organic solvents, many of which are classified as HAP's. Commonly used solvents such as toluene, methanol, aliphatic ketones, and glycol ethers at sufficient concentrations and levels of exposure are associated with non-cancer chronic or acute health impacts. The evaluation of emissions from the four largest wood coating operations in San Diego (based on the information compiled in the latest District AB2588 Toxics "Hot Spots" Program Annual Report<sup>5</sup>) shows that the VOC emissions from conventional paints contain between 40 and 60% HAP constituents. This means that, in the worst case (60%), approximately 10 tons per year of HAP emission reductions may be delayed with the continuing use of conventional coatings. Analyses performed by the District in the implementation of the AB2588 Toxics "Hot Spots" Program show that the magnitude and toxicity of HAP emissions from each wood coating facility is presently below levels that would trigger a health risk assessment, and is therefore not considered to be associated with a significant health risk.

Similarly, water-based coatings typically contain several HAP's such as glycol ethers, xylenes, toluene and ammonia. Glycol ethers have the highest toxicity per unit emission among solvents used in wood coatings, and are associated with adverse reproductive and developmental effects in humans, and respiratory system impacts. In 1995, the South Coast Air Quality Management District conducted a preliminary screening health risk assessment of glycol ether emissions from water-based wood coatings<sup>6</sup>. It was concluded that the use of such coatings may result in potential significant adverse human health impacts, and that sources converting to water-based technology may be required to conduct a health risk assessment depending on the amount of coatings used and site-specific dispersion characteristics. The preliminary generic health risk assessment also showed that in some cases daily usage of 30 gallons of water-based coatings may result in a total non-cancer health hazard index of 5.0 (Values above 1.0 may be considered significant). Therefore, the use of water-based technology may not necessarily result in a significant overall health risk reduction at any given facility because the decrease in adverse health effects from HAP's present in solvent-based coatings may be totally or partially offset by the increase in the health risk from HAP's present in water-based coatings.

Based on the above arguments it is expected that the proposed amendments will not result in any significant adverse health impacts.

#### CUMULATIVE IMPACTS

It should be mentioned that the District does not anticipate that this temporary loss of VOC or HAP emission reductions will have any cumulative impacts with any other proposed rule amendments regulating ozone precursors (VOCs and Nitrogen Oxides - NO<sub>x</sub>). The majority of these rules are incorporated into the California State Implementation Plan (SIP). The 1990 Federal Clean Air Act<sup>4</sup> specifically prohibits any SIP rule modifications in a non-attainment area for any air pollutant "unless the modification ensures equivalent or greater emission reductions of such air pollutant".

In addition, the District is working on new Rule 67.21 to control VOC emissions from adhesive applications. These operations were previously regulated under a less restrictive Rule 66 (Organic Solvents). The District is also working on amendments to Rules 69.3 (Internal Combustion Turbine Engines) and 69.4 (Internal Combustion Reciprocating Engines) which will impose more stringent NO<sub>x</sub> emission limitations. These measures will provide further reductions in the emissions of ozone precursors and will contribute to the attainment of the federal and state ozone standards in San Diego county.

Therefore, it can be concluded that there will be no significant adverse environmental impact from adoption of proposed amendments to Rule 67.11.

## REFERENCES

1. South Coast Air Quality Management District, Staff Report for Rule 1136 (Wood Products Coating), June 1996.
2. 1990 Federal Clean Air Act, Title V, Section 507(c)(1).
3. 1994 State Implementation Plan Rate of Progress Plan for the San Diego Air Basin, San Diego County APCD.
4. 1990 Federal Clean Air Act, Title III, Section 193.
5. San Diego Air Pollution Control District. California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588), Draft Report, San Diego, Ca, 1996.
6. South Coast Air Quality Management District, Final Supplemental Environmental Assessment for Rule 1136 (Wood Products Coating), August 1995.

**TABLE 1****Rule 67.11- Sources Subject to the Proposed Amendments and Their Emissions**

<b>Facility</b>	<b>Facility's Affected VOC Emissions, lbs/day</b>	<b>Facility's Affected VOC Emissions, tons per year</b>
1	1.60	0.2
2	2.41	0.3
3	4.78	0.6
4	6.02	0.8
5	7.68	1.0
6	7.83	1.0
7	7.92	1.0
8	9.29	1.2
9	9.35	1.2
10	10.64	1.3
11	10.64	1.3
12	10.72	1.3
13	11.78	1.5
14	12.02	1.5
15	12.44	1.6
16	12.72	1.6
17	14.91	1.9
18	15.13	1.9
19	17.99	2.2
20	22.80	2.9
21	24.01	3.0
22	26.53	3.3
23	30.67	3.8
24	32.66	4.1
25	35.46	4.4
26	37.81	4.7
27	42.67	5.3
28	46.02	5.8
29	46.22	5.8
30	52.65	6.6
31	57.83	7.2
32	65.35	8.2
33	76.05	9.5
34	79.50	9.9
35	80.04	10.0
36	80.42	10.1
37	91.50	11.4
<b>Total</b>	<b>1114.1</b>	<b>139.3</b>



TABLE 2

**Rule 67.11 - Distribution of Emissions and Sources  
Subject to the Proposed Amendments**

<b>Range of VOC Emissions per Source, lbs/day</b>	<b>Number of Sources</b>	<b>Percent of Total Sources</b>	<b>Total Emissions per Category, lbs per day</b>	<b>Total Emissions per Category, tons per year</b>	<b>Percent of Total Emissions</b>
1 to 10	9	24.3	56.9	7.1	5.1
10 to 15	8	21.6	95.9	12.0	8.6
15 to 20	2	5.4	33.1	4.1	3.0
20 to 30	3	8.1	73.3	9.2	6.6
30 to 40	4	10.8	136.6	17.1	12.3
40 to 50	3	8.1	134.9	16.9	12.1
50 to 60	2	5.4	110.5	13.8	9.9
60 to 70	1	2.7	65.4	8.2	5.9
70 to 80	2	5.4	155.6	19.4	14.0
80 to 90	2	5.4	160.5	20.1	14.4
90 to 100	1	2.7	91.5	11.4	8.2
<b>TOTAL</b>	<b>37</b>	<b>100.0</b>	<b>1114.1</b>	<b>139.3</b>	<b>100.0</b>

other air districts in California have also recognized this problem and delayed the implementation dates for the use of water-based coatings.

Interim limits based on the availability of acetone-based wood coatings are not included in the rule at this time. This technology is new and the experience of manufacturers and users with acetone-based coatings is very limited. Aside from unresolved issues of safety and high flammability, it is clear that these coatings do not provide an acceptable finished product quality for all categories of products and there are problems associated with the use of acetone-based coatings during periods of high humidity. The additional emission reductions that could be obtained in San Diego county by including interim VOC limits are negligible (approximately 9 tons per year, 0.036 tons per day).

## **DISCUSSION OF EMISSIONS:**

### **VOC EMISSIONS**

The formation of ground-level ozone is a result of a complex set of photochemical reactions involving volatile organic compounds and nitrogen oxides. Because these reactions are taking place over hours or days, the environmental impact of increased VOCs is countywide and must be analyzed in the context of the total VOC emissions in San Diego County. According to the recent estimates data the total VOC emissions in San Diego Air Basin from all man-made sources were approximately 250 tons per day, with 105 tons per day attributed to stationary sources. The total VOC emissions from all permitted sources involved in wood coating operations in San Diego County were calculated using the District emission inventory and permit files. In addition, these calculations assumed the maximum allowable VOC content of coatings and solvent usage which is considered a worst case estimate. These emissions are approximately 0.65 tons per day (163 tons per year)\*.

There are 161 facilities in San Diego county involved in wood coating operations. Of these, 124 facilities are exempt from the rule emission standards because they use less than 500 gallons of coatings per year. These facilities are required to keep purchase records and monthly or daily records of coating usage to verify their continuous eligibility for the exemption. Their total VOC emissions are approximately 24 tons per year or 0.1 tons per day.

The rest of wood coating facilities (37) are subject to the Rule 67.11 emission standards. These facilities are using coatings which will be affected by the proposed delay in the implementation of more stringent VOC limits. They emit approximately 139 tons of VOC per year (0.56 tons/day).

It should be noted that the vast majority of the wood coating facilities are small stationary sources of VOC emissions, which are defined<sup>2</sup> as sources having less than 100 employees and emitting less than 10 tons per year of VOC's. Only one wood coating business in San Diego county has more than 100 employees, and two other companies having less than 100 employees emit more than 10 tons per year of VOC's. 34 out of 37 affected companies in the District are small businesses and small stationary sources (see Table 1).

The distribution of sources and emissions among all companies subject to the proposed amendments are shown in Table 2. According to District information, the largest three sources

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\* All sources and VOC emission data presented here in Palatino font (blue) were corrected later in 1997, after the Negative Declaration was released for public comments and a subsequent public hearing.