



DATE: April 2, 1991
TO: Air Pollution Control Board
SUBJECT: Adoption of Amendments to Rule 67.16 (Graphic Arts Operations)

SUMMARY

Rule 67.16 (Graphic Arts Operations) regulates volatile organic compounds (ozone precursors) from graphic arts operations. The changes correct deficiencies identified by the Environmental Protection Agency. Failure to correct deficiencies may result in withholding of certain federal grant monies from the District, an imposition of a major source construction ban in San Diego County and/or withholding federal highway and sewage treatment funds. In addition to deficiency corrections, the rule has been revised to delete the compliance option of using coatings containing no more than 25 percent volatile organic compounds, add new requirements for equipment cleanup, and prohibit coating reformulations that increase methylene chloride or CFC content. The changes will result in approximately 42 tons per year of additional emission reductions. The majority of those reductions will come from the new requirements for cleanup solvents. Approximately 20 facilities will be affected.

Issue

Should the Board adopt amendments to Rule 67.16 (Graphic Arts Operations) correcting deficiencies identified by the Environmental Protection Agency and achieving additional volatile organic compound (ozone precursors) reductions necessary to attain the state and federal clean air standards for ozone?

Recommendation

AIR POLLUTION CONTROL OFFICER:

1. Set May 7, 1991 at 2:00 p.m., as the date and time for public hearing to consider the resolution amending Rule 67.16 of the Rules and Regulations of the San Diego County Air Pollution Control District.

ON MOTION of Member Bailey, seconded by Member Golding, the Air Pollution Control Board of the San Diego County Air Pollution Control District takes action as recommended on recommendations 1 and 2, setting hearing on 5/21/91, 2:00 p.m., by following vote:

AYES: Bailey, Golding,
Williams, MacDonald
ABSENT: Bilbray

THOMAS J. PASTUSZKA
Clerk of the Air Pollution
Control Board

By *Dora Cesena*
Deputy

SUBJECT: Adoption of Amendments to Rule 67.16 (Graphic Arts Operations)

SUMMARY [CONTINUED]

2. Direct the Clerk of the Board to notice the Hearing pursuant to Section 40725 of the State Health and Safety Code.
3. Following the hearing: (a) adopt the resolution amending Rule 67.16 and, (b) make appropriate findings of necessity, authority, clarity and consistency, as required by Section 40727 of the State Health and Safety Code.

Advisory Statement

The Air Pollution Control Advisory Committee recommended adoption of the proposed changes at its March 13, 1991 meeting.

Fiscal Impact

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

Alternatives

Not adopt the proposed changes to Rule 67.16 to correct deficiencies. Failure to correct deficiencies with Rule 67.16 may result in the Environmental Protection Agency withholding certain federal grant monies from the District, imposing a major source construction ban and/or withholding federal highway and sewage treatment funds. Also, the resulting emission reductions would not be realized.

BACKGROUND:

Rule 67.16 regulates volatile organic compound (solvent) emissions from continuous web or single sheet fed graphic arts printing, processing, laminating and drying operations. The proposed changes correct rule deficiencies identified by the Environmental Protection Agency. These corrections revise the definition of a volatile organic compound consistent with EPA requirements and add additional exempt compounds because they are not ozone precursors. The exemption level is reduced from 19.9 to 15 pounds per day and the application to coating flexible packaging materials for food or health care products is clarified. Recordkeeping requirements are added and test methods used to determine compliance are specified.

In addition to deficiency corrections, exemptions are added for development processes associated with preparing lithographic printing plates, and blanket repair material applied from aerosol containers of 4 ounces or less. The current exemption for proof presses has been revised to also include proofing systems. The changes clarify that volatile organic compound limits are "less water and exempt compounds". The option of achieving compliance using coatings containing no more than 25 percent volatile organic compounds has been deleted. The District is unaware of anyone using this option to comply.

SUBJECT: Adoption of Amendments to Rule 67.16 (Graphic Arts Operations)

BACKGROUND [CONTINUED]

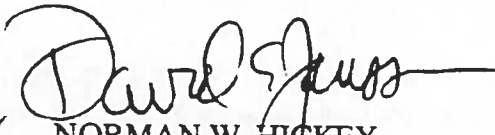
The changes also revise control equipment requirements, and add new requirements for equipment cleanup, consistent with other District rules. Reformulation of graphic arts materials to increase the methylene chloride or CFC content has been prohibited. Clarifications have been made and out of date language deleted.

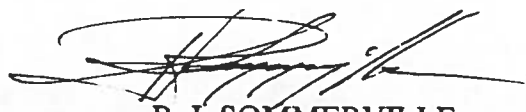
The District estimates the cost to meet the new requirements will be relatively small since the cost of using complying cleanup materials is only slightly more than the cost of conventional materials.

A public workshop on the proposed changes was held on February 28, 1991. The workshop report is attached.

Concurrence:

Respectfully submitted,


NORMAN W. HICKEY
Chief Administrative Officer


R. J. SOMMERVILLE
Air Pollution Control Officer

**AIR POLLUTION CONTROL BOARD
AGENDA ITEM
INFORMATION SHEET**

SUBJECT: Adoption of Amendments to Rule 67.16 (Graphic Arts Operations)

SUPV DIST.: All

COUNTY COUNSEL APPROVAL: Form and Legality ^{att} Yes N/A
 Standard Form Ordinance Resolution

AUDITOR APPROVAL: N/A Yes **4 VOTES:** Yes No

FINANCIAL MANAGEMENT REVIEW: Yes No

CONTRACT REVIEW PANEL: Approved _____ N/A

CONTRACT NUMBER(S): N/A

PREVIOUS RELEVANT BOARD ACTION: 10/18/88 (#1)

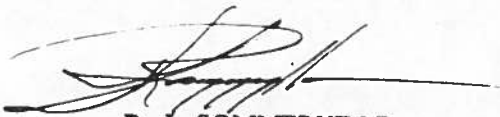
BOARD POLICIES APPLICABLE: N/A

CITIZEN COMMITTEE STATEMENT: The Air Pollution Control District Advisory Committee recommended approval of the proposed changes at its March 13, 1991 meeting.

CONCURRENCES: N/A

ORIGINATING DEPARTMENT: Air Pollution Control District

CONTACT PERSON: Richard J. Smith 750/694-3303



R. J. SOMMERVILLE
DEPARTMENT AUTHORIZED REPRESENTATIVE

April 2, 1991
MEETING DATE

**RESOLUTION AMENDING RULE 67.16
OF REGULATION IV
OF THE RULES AND REGULATIONS OF THE
SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT**

On motion of Member Bailey, seconded by Member Williams 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 67.16 is to read as follows:

RULE 67.16. GRAPHIC ARTS OPERATIONS

(a) APPLICABILITY

(1) This rule is applicable to all continuous web or single sheet fed graphic arts printing, processing, laminating or drying operations.

(2) Operations subject to this rule and in compliance with Section (d) of this rule shall not be subject to Rule 66.

(b) EXEMPTIONS

The provisions of Sections (d) and (e) of this rule shall not apply to:

(1) Stationary Sources which emit less than 15 lbs (6.8 kg) of volatile organic compounds (VOC) on each day from all graphic arts operations.

(2) All proofing systems.

(3) Manufacture of:

(i) Solar control window film,

- (ii) Heat applied transfer decals,
- (iii) Ceramic decals manufactured for firing above 800°F, or
- (iv) Water slide decals.
- (4) Printing on ceramic or circuit boards.
- (5) Embossing and foil stamping which do not use materials containing VOC.
- (6) Coating operations subject to Rule 67.5, Paper, Film and Fabric Coating Operations.
- (7) Development process associated with the preparation of lithographic printing plates.
- (8) Blanket repair material applied from non-refillable aerosol containers of 4 ounces or less.

It is the responsibility of any person claiming an exemption pursuant to Subsection (b)(1) to maintain daily records specified in Section (f) of this rule necessary to establish maximum daily emissions and to make this information available to the District upon request.

(c) DEFINITIONS

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

- (1) **"Coating"** in the graphic arts means a layer of material applied to a substrate in a relatively unbroken film.
- (2) **"Exempt Compound"** means any of the following compounds: 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trifluoromethane (FC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), chlorodifluoromethane (CFC-22), dichlorotrifluoroethane (HCFC-123), dichlorofluoroethane (HCFC-141b), tetrafluoroethane (HFC-134a), and chlorodifluoroethane (HCFC-142b).
- (3) **"Exterior Marking"** means any outdoor sign printed, coated or laminated by any of the graphic arts methods.
- (4) **"Flexographic Printing"** means a letterpress method utilizing flexible rubber or other elastomeric plate.
- (5) **"Fountain Solution"** means the solution which is applied to the image plate to maintain the hydrophilic properties of the non-image areas.
- (6) **"Graphic Arts"** means all screen, gravure, letterpress, flexographic and lithographic printing processes, or related coating, or laminating processes including laboratory or experimental processes and coating of flexible packaging materials for food or health care products.
- (7) **"Graphic Arts Line"** means printing application equipment, coating equipment, laminating equipment, flash-off areas, ovens, conveyors or other equipment operating in an uninterrupted series to produce graphic arts using graphic art materials.

(8) "**Graphic Arts Material**" means any inks, coatings, adhesives, fountain solutions, thinners, or retarders used in printing or related coating or laminating processes.

(9) "**Gravure Printing**" means an intaglio process in which the ink is carried in minute etched or engraved wells on a roll or cylinder, with excess ink being removed from the surface by doctor blade.

(10) "**Lamination**" means a process of composing two or more layers of material to form a single multiple layer sheet by using adhesive.

(11) "**Letterpress Printing**" means a method where the image area is raised relative to the non-image area and the ink is transferred to the paper directly from the image surface.

(12) "**Lithographic Printing**" means a plane-o-graphic method in which the image and non-image areas are on the same plane, and the ink is offset from a plate to a rubber blanket, and then from the blanket to the substrate.

(13) "**Printing**" means any operation that imparts color, design, alphabet or numerals on a substrate.

(14) "**Printing Ink**" means any fluid or viscous composition used in printing, impressing or transferring an image onto a substrate.

(15) "**Proofing System**" means a system used only to check the quality or print color reproduction and editorial content and includes proof presses and/or off-press proofing lines.

(16) "**Publication Gravure**" means a gravure printing on paper substrate which is subsequently used to form books, magazines, catalogues, brochures, directories, and newspaper supplements or other printed material.

(17) "**Screen Printing**" means a process where the printing ink passes through a web or a fabric to which a refined form of stencil has been applied. The stencil openings determine the form and dimensions of imprint.

(18) "**Stationary Source**" means a unit or an aggregation of units of non-vehicular air contaminant emitting articles, machines, equipment or other contrivances, all of which are located on one property or adjoining properties under the same ownership or entitlement to use and operate. This includes any unit or aggregation of units in the California Coastal Waters off San Diego County.

(19) "**Volatile Organic Compound(s)(VOC)**" for the purpose of this rule means any volatile compound containing at least one atom of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, ammonium carbonate, metallic carbides and carbonates, and exempt compounds which may be emitted to the atmosphere during the application of and/or subsequent drying or curing of graphic arts materials or cleaning materials subject to this rule. VOC content of graphic arts material, except for thinners and cleaning materials, is expressed in grams of VOC per liter of material as applied, minus water and minus exempt compounds. VOC content of thinners and cleaning materials is expressed in grams of VOC per liter of material.

(20) "**Web-fed**" means an automatic system which supplies substrate from a continuous roll or from an extrusion process.

(d) **STANDARDS**

(1) **Graphic Arts Material**

A person shall not operate any printing or graphic arts process unless:

- (i) Only graphic arts materials containing less than 300 grams of VOC per liter (2.5 lbs/gal) as applied, less water and exempt compounds are used; and
- (ii) Only fountain solutions containing no more than 15% by volume VOC, as applied, are used.

(2) **Cleanup of Equipment**

Effective (*six months after date of adoption*), a person shall not use materials containing VOC's for the cleanup of equipment used in graphic arts operations unless:

- (i) The cleaning solvent has a VOC content of less than 200 grams per liter of material; or
- (ii) The total VOC vapor pressure of the material is 45 mm of Hg at 20°C or less; or
- (iii) A system is used that totally encloses the component parts being cleaned during the washing, rinsing, and draining processes; or
- (iv) The cleaning solvent is transferred through the application equipment, without exposure to air, into a container which has in place an apparatus or cover which completely covers the container and has no visible holes, breaks, openings or separations between adjoining components of the container or container cover. Containers may be equipped with vents provided such vents are necessary to comply with applicable fire and safety codes.

(3) A person shall not sell, offer for sale, or supply any coating or cleaning material for use in graphic arts operations that, after (*date of adoption*), was newly formulated to contain or reformulated to increase the content of methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

(4) After (*date of adoption*), a person shall not manufacture, sell, offer for sale, or supply any coating or cleaning material for use in graphic arts operations unless the coating or cleaning material container displays the content of methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

(e) **CONTROL EQUIPMENT**

(1) Any person subject to this rule can comply with the provisions of Subsection (d)(1) by using air pollution control equipment which has been approved in writing by the Air Pollution Control Officer provided that the VOC emissions are reduced such that:

- (i) The emission control system has an overall capture efficiency on a mass basis of at least 95 percent from the graphic arts processes; and

(ii) The emission control system has an emission reduction efficiency of at least 90 percent on a mass basis at all times during operation of the line being controlled.

(2) Any person complying with the provisions of Subsection (d)(1) by the use of control equipment shall provide the District with an Operation and Maintenance Plan. This plan shall, at a minimum, specify key system operating parameters, such as temperatures, pressures and/or flow rates, necessary to determine compliance with this rule, and detail maintenance procedures to be followed for the control equipment. District review and approval of this plan shall be required for compliance with this rule to be achieved.

(f) RECORDKEEPING

Effective (*date of adoption*), any person applying graphic arts materials shall maintain records in accordance with the following requirements:

(1) Maintain a current list of graphic arts materials containing VOC's such as inks, adhesives, thinners, retarders, fountain solutions and cleaning materials in use which provides data necessary to evaluate compliance, including, but not limited to:

(i) Type of graphic arts material or cleaning material used;

(ii) Dilution ratio of mixed components;

(iii) VOC content of each graphic arts material and cleaning material, as applied.

(2) Maintain daily records showing amount of each graphic arts material including, but not limited to, inks, adhesives, thinners, retarders, fountain solutions and cleaning solutions used.

(3) Maintain daily records of key system operating parameters for emission control equipment.

(4) Maintain records of the content of methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), and chloropentafluoroethane (CFC-115) in any coating material or cleaning material used.

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

(g) TEST METHODS

(1) Measurements of VOC content subject to Section (d) of this rule shall be conducted and reported in accordance with EPA Test Method 24 (40 CFR 60, Appendix A) as it exists on (*date of adoption*), and ASTM Test Method D 4457-85 for determination of dichloromethane and 1,1,1-trichloroethane in paints and coatings by direct injection into a gas chromatograph. Calculations of the VOC content less water and less exempt compounds shall be performed in accordance with ASTM Standard Practice D 3960-87 for determining VOC content of paints and related coatings.

(2) Measurements of VOC content of rotogravure publication inks subject to Section (d) of this rule shall be conducted and reported in accordance with EPA Test Method 24A (40 CFR 60, Appendix A) as it exists on (*date of adoption*) and ASTM Test

Method D 4457-85 for determination of dichloromethane and 1,1,1,-trichloroethane in paints and coatings by direct injection into a gas chromatograph.

(3) Measurements of VOC emissions subject to Section (e) of this rule shall be conducted in accordance with EPA Methods 18 and 25 or 25A (40 CFR 60, Appendix A) as applicable and with EPA Guidelines for Measurement of Capture Efficiency as they exist on (date of adoption).

(4) Measurements of vapor pressures of VOC containing compounds pursuant to Subsection (d)(2)(i) of this rule shall be calculated using the District's "Procedure for Estimating the Vapor Pressure of a Solvent Mixture", as it exists on (date of adoption). If the vapor pressure of the liquid mixture is in excess of the limit specified in Subsection (d)(2)(ii), the vapor pressure shall be determined in accordance with ASTM Test Method D 2879-83, "Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope."

(5) Measurements of VOC content pursuant to Subsection (d)(1)(ii) shall be conducted and reported in accordance with ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E 260-85.

(6) Measurements of VOC content of non-heatset inks subject to Section (d) of this rule shall be conducted and reported in accordance with EPA Test Method 24 (40 CFR 60, Appendix A), Bay Area Air Quality Management District Method 30, "Determination of Volatile Organic Compounds in Solvent Based Non-Heatset Inks", and ASTM Test Method D 4457-85 for determination of dichloromethane and 1,1,1,-trichloroethane in paints and coatings by direct injection into a gas chromatograph.

IT IS FURTHER RESOLVED AND ORDERED that the subject amendments to Rule 67.16, 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 21st day of May, 1991 by the following votes:

AYES: Supervisors Bailey, Williams and MacDonald
NOES: Supervisors None
ABSENT: Supervisors Bilbray and Golding

STATE OF CALIFORNIA)
COUNTY OF SAN DIEGO) ss.

I, THOMAS J. PASTUSZKA, Clerk of the Air Pollution Control Board of the County of San Diego, State of California, hereby certify that I have compared the foregoing copy with the original resolution passed, and adopted by said Board at a regular meeting thereof, at the time and by the vote herein stated, which original resolution is now on file in my office; that the same contains a full, true and correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of said Air Pollution Control Board,
this 23rd day of May, 1991.

APPROVED AS TO FORM AND LEGALITY
COUNTY COUNSEL

(SEAL)

THOMAS J. PASTUSZKA
Clerk of the Air Pollution Control Board
San Diego County Air Pollution Control District

By Maria A. Tiscareno
Maria A. Tiscareno, Deputy

CHANGE COPY

Re Rules and Regulations of the)
Air Pollution Control District)
of San Diego County)

**RESOLUTION AMENDING RULE 67.16
OF REGULATION IV
OF THE RULES AND REGULATIONS OF THE
SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT**

On motion of Member _____, seconded by Member _____ 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 67.16 is to read as follows:

RULE 67.16. GRAPHIC ARTS OPERATIONS

(a) APPLICABILITY

(1) This rule is applicable to all continuous web or single sheet fed graphic arts printing, processing, laminating or drying operations.

(2) Operations subject to this rule and in compliance with Section (d) of this rule shall not be subject to Rule 66.

(b) EXEMPTIONS

The provisions of Sections (d) and (e) of this rule shall not apply to:

(1) ~~Any graphic arts operation located at a stationary source, as defined in Rule 20-1, Stationary Sources~~ which emits less than ~~49.9~~ 15 lbs (9 6.8 kg) of volatile organic compounds (VOC) on each day from all graphic arts operations. ~~It is the responsibility of~~

~~any person claiming this exemption to maintain all records necessary to establish maximum daily emissions and to make this information available to the District upon request.~~

- (2) All ~~proof presses~~ proofing systems.
- (3) Manufacture of:
 - (i) Solar control window film,
 - (ii) Heat applied transfer decals,
 - (iii) Ceramic decals manufactured for firing above 800°F, or
 - (iv) Water slide decals.
- (4) Printing on ceramic or circuit boards.
- (5) Embossing and foil stamping which do not use materials containing VOC.
- (6) Coating operations ~~Operations~~ subject to Rule 67.5, Paper, Film and Fabric Coating Operations.
- (7) Development processes associated with the preparation of lithographic printing plates.
- (8) Blanket repair material applied from non-refillable aerosol containers of 4 ounces or less.

It is the responsibility of any person claiming an exemption pursuant to Subsection (b)(1) to maintain daily records specified in Section (f) of this rule necessary to establish maximum daily emissions and to make this information available to the District upon request.

(c) **DEFINITIONS**

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

(1) **"Coating" in the graphic arts** means a layer of material applied to a substrate in a relatively unbroken film.

(2) **"Exempt Compound"** means any of the following compounds: 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trifluoromethane (FC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), chlorodifluoromethane (CFC-22), dichlorotrifluoroethane (HCFC-123), dichlorofluoroethane (HCFC-141b), tetrafluoroethane (HFC-134a), and chlorodifluoroethane (HCFC-142b).

(2)(3) **"Exterior Marking"** means any outdoor sign printed, coated or laminated by any ~~of~~ of the graphic arts methods.

(3)(4) **"Flexographic Printing"** means a letterpress method utilizing flexible rubber or other elastomeric plate.

(4)(5) **"Fountain Solution"** means the solution which is applied to the image plate to maintain the hydrophilic properties of the non-image areas.

(5) ~~"Fugitive Emissions"~~ means emissions of volatile organic compounds from any portion of the printing, coating, and laminating operation other than from the exhaust system of the drying oven.

(6) **"Graphic Arts"** means all screen, gravure, letterpress, flexographic and lithographic printing processes, or related coating, or laminating processes including laboratory or experimental processes and coating of flexible packaging materials for food or health care products.

(7) **"Graphic Arts Line"** means printing application equipment, coating equipment, laminating equipment, flash-off areas, ovens, conveyors or other equipment operating in an uninterrupted series to produce graphic arts using graphic art materials.

(8) **"Graphic Arts Materials"** means any inks, coatings, adhesives, fountain solutions, thinners, or retarders, or cleaning solutions used in printing or related coating or laminating processes.

(9) **"Gravure Printing"** means an intaglio process in which the ink is carried in minute etched or engraved wells on a roll or cylinder, with excess ink being removed from the surface by doctor blade.

(10) **"Lamination"** means a process of composing two or more layers of material to form a single multiple layer sheet by using adhesive.

(11) **"Letterpress Printing"** means a method where the image area is raised relative to the non-image area and the ink is transferred to the paper directly from the image surface.

(12) **"Lithographic Printing"** means a plane-o-graphic method in which the image and non-image areas are on the same plane and the ink is offset from a plate to a rubber blanket, and then from the blanket to the substrate.

(13) ~~"Non-porous Substrate"~~ means a substrate, including but not limited to foil, polyethylene, polypropylene, cellophane, metalized polyester nylon, polyethylene terephthalate, and paper products coated with a non-porous material, whose surface prevents penetration by fluids.

(14) ~~"Porous Substrate"~~ means a substance, including but not limited to paper, paperboard, and any products which have a thin porous coating, whose surface does not prevent penetration by fluids.

(13) **"Printing"** means any operation that imparts color, design, alphabet or numerals on a substrate.

(14) **"Printing Ink"** means any fluid or viscous composition used in printing, impressing or transferring an image onto a substrate.

(15) **"Proof Press Proofing System"** means a system used only to check the quality or print color reproduction and editorial content and includes proof presses and/or off-press proofing lines.

(16) **"Publication Gravure"** means a gravure printing on paper substrate which is subsequently used to form books, magazines, catalogues, brochures, directories, and newspaper supplements or other printed material.

(19)(17) **"Screen Printing"** means a process where the printing ink passes through a web or a fabric to which a refined form of stencil has been applied. The stencil openings determine the form and dimensions of imprint.

(18) **"Stationary Source"** means a unit or an aggregation of units of non-vehicular air contaminant emitting articles, machines, equipment or other contrivances, all of which are located on one property or adjoining properties under the same ownership or entitlement to use and operate. This includes any unit or aggregation of units in the California Coastal Waters off San Diego County.

(20)(18)(19) **"Volatile Organic Compounds (VOC)"** for the purpose of this rule means any volatile compound ~~or combination of volatile compounds~~ containing at least one atom of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, ammonium carbonate, metallic carbides and carbonates, methylene chloride, 1,1,1-trichloroethane and trichlorofluoromethane and exempt compounds which may be emitted to the atmosphere during the application of and/or subsequent drying or curing of graphic arts materials ~~or cleaning materials~~ subject to this rule. ~~For purposes of calculating the VOC content of a graphic arts material any water or any of the above excluded volatile compounds of carbon shall not be considered to be part of the graphic arts material. The VOC content of graphic arts materials shall be determined in accordance with methods specified in the District Manual of Procedures.~~ VOC content of graphic arts material, except for thinners and cleaning materials, is expressed in grams of VOC per liter of material as applied, minus water and minus exempt compounds. VOC content of thinners and cleaning materials is expressed in grams of VOC per liter of material.

(21)(20) **"Web-fed"** means an automatic system which supplies substrate from a continuous roll or from an extrusion process.

(d) **STANDARDS**

(1) Graphic Arts Material

~~A person shall not operate any printing or graphic arts process coating on:~~

(1) ~~Porous substrate, excluding detergent packages, unless:~~

(i) ~~Only low-solvent graphic arts material is used which:~~

(A) ~~contains less than 300 grams VOC per liter (2.5 lbs/gal) as applied,~~
~~or~~

(B) ~~contains no more than 25 percent of the volatile portion as VOC by volume; and~~

A person shall not operate any printing or graphic arts process unless:

(i) Only graphic arts materials containing less than 300 grams of VOC per liter (2.5 lbs/gal) as applied, less water and exempt compounds are used; and

(ii) Only fountain solutions containing no more than 15% by volume VOC, as applied, are used; ~~or,~~

(iii) ~~VOC emissions from the printing, laminating and drying operations are controlled by an emission control system which has an overall collection efficiency of at least 95 percent on a mass basis and a control efficiency of at least 90 percent on a mass basis at all times during operation of the line being controlled; or~~

~~(iv) An equivalent collection and control system is used which is approved by the Air Pollution Control Officer. Equivalent control is achieved when VOC emissions are reduced by at least as much as would have occurred if compliance with Subsections (d)(1)(i), and (ii), or (iii) was achieved.~~

~~(2) Non porous substrate, including detergent packages, unless:~~

~~(i) Only low solvent graphic arts material as defined in Subsections (d)(1)(i)(A) or (B) is used; and~~

~~(ii) Only fountain solutions containing no more than 15% by volume VOC, as applied, are used; or~~

~~(iii) VOC emissions from any graphic arts process are controlled with an emission control system which has an overall collection efficiency on a mass basis of at least 95 percent from all drying ovens and all other sources of VOC emissions and a control efficiency of at least 90 percent on a mass basis at all times during operation of the line being controlled; or~~

~~(iv) An equivalent collection and control system as defined in Subsection (d)(1)(iv) is used.~~

(2) Cleanup of Equipment

Effective (six months after date of adoption), a person shall not use materials containing VOC's for the cleanup of equipment used in graphic arts operations unless:

(i) The cleaning solvent has a VOC content of less than 200 grams per liter of material; or

(ii) The total VOC vapor pressure of the material is 45 mm of Hg at 20°C or less; or

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

(iv) The cleaning solvent is transferred through the application equipment, without exposure to air, into a container which has in place an apparatus or cover which completely covers the container and has no visible holes, breaks, openings or separations between adjoining components of the container or container cover. Containers may be equipped with vents provided such vents are necessary to comply with applicable fire and safety codes.

(3) A person shall not sell, offer for sale, or supply any coating or cleaning material for use in graphic arts operations that, after (date of adoption), was newly formulated to contain or reformulated to increase the content of methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

(4) After (date of adoption), a person shall not manufacture, sell, offer for sale, or supply any coating or cleaning material for use in graphic arts operations unless the coating or cleaning material container displays the content of methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

~~(3) Any person complying with the provisions of this section by the use of control equipment shall provide the District with an Operation and Maintenance Plan. This plan shall, at a minimum, specify necessary parameters, such as temperatures, pressures and flow rates, necessary to determine compliance with this rule, and detail maintenance procedures to be followed for the control equipment. District review and approval of this plan shall be required for compliance with this rule to be achieved.~~

(e) COMPLIANCE SCHEDULE

This rule shall be effective:

(1) ~~On and after October 18, 1988 for all equipment installed after that date.~~

~~(2) On and after November 1, 1989 for all equipment installed before October 18, 1988. The owner/operator of such equipment shall, by July 1, 1989, file application(s) for Authority to Construct a collection and control system which will comply with the requirements of Section (d) if such controls will be necessary to achieve compliance with this rule.~~

(e) CONTROL EQUIPMENT

(1) Any person subject to this rule can comply with the provisions of Subsection (d)(1) by using air pollution control equipment which has been approved in writing by the Air Pollution Control Officer provided that the VOC emissions are reduced such that:

(i) The emission control system has an overall capture efficiency on a mass basis of at least 95 percent from the graphic arts processes; and

(ii) The emission control system has an emission reduction efficiency of at least 90 percent on a mass basis at all times during operation of the line being controlled.

(2) Any person complying with the provisions of Subsection (d)(1) by the use of control equipment shall provide the District with an Operation and Maintenance Plan. This plan shall, at a minimum, specify key system operating parameters, such as temperatures, pressures and/or flow rates, necessary to determine compliance with this rule, and detail maintenance procedures to be followed for the control equipment. District review and approval of this plan shall be required for compliance with this rule to be achieved.

(f) RECORDKEEPING

Effective (date of adoption), any person applying graphic arts materials shall maintain records in accordance with the following requirements:

(1) Maintain a current list of graphic arts materials containing VOC's such as inks, adhesives, thinners, retarders, fountain solutions and cleaning materials in use which provides data necessary to evaluate compliance, including, but not limited to:

(i) Type of graphic arts material or cleaning material used;

(ii) Dilution ratio of mixed components;

(iii) VOC content of each graphic arts material and cleaning material, as applied.

(2) Maintain daily records showing amount of each graphic arts material including, but not limited to, inks, adhesives, thinners, retarders, fountain solutions and cleaning solutions used.

(3) Maintain daily records of key system operating parameters for emission control equipment.

(4) Maintain records of the content of methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), and chloropentafluoroethane (CFC-115) in any coating material or cleaning material used.

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

(g) TEST METHODS

(1) Measurements of VOC content subject to Section (d) of this rule shall be conducted and reported in accordance with EPA Test Method 24 (40 CFR 60, Appendix A) as it exists on (date of adoption), and ASTM Test Method D 4457-85 for determination of dichloromethane and 1,1,1-trichloroethane in paints and coatings by direct injection into a gas chromatograph. Calculations of the VOC content less water and less exempt compounds shall be performed in accordance with ASTM Standard Practice D 3960-87 for determining VOC content of paints and related coatings.

(2) Measurements of VOC content of rotogravure publication inks subject to Section (d) of this rule shall be conducted and reported in accordance with EPA Test Method 24A (40 CFR 60, Appendix A) as it exists on (date of adoption) and ASTM Test Method D 4457-85 for determination of dichloromethane and 1,1,1-trichloroethane in paints and coatings by direct injection into a gas chromatograph.

(3) Measurements of VOC emissions subject to Section (e) of this rule shall be conducted in accordance with EPA Methods 18 and 25 or 25A (40 CFR 60, Appendix A) as applicable and with EPA Guidelines for Measurement of Capture Efficiency as they exist on (date of adoption).

(4) Measurements of vapor pressures of VOC containing compounds pursuant to Subsection (d)(2)(i) of this rule shall be calculated using the District's "Procedure for Estimating the Vapor Pressure of a Solvent Mixture", as it exists on (date of adoption). If the vapor pressure of the liquid mixture is in excess of the limit specified in Subsection (d)(2)(ii), the vapor pressure shall be determined in accordance with ASTM Test Method D 2879-83, "Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope."

(5) Measurements of VOC content pursuant to Subsection (d)(1)(ii) shall be conducted and reported in accordance with ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E 260-85.

(6) Measurements of VOC content of non-heatset inks subject to Section (d) of this rule shall be conducted and reported in accordance with EPA Test Method 24A (40 CFR 60, Appendix A) or with Bay Area Air Quality Management District Method 30, "Determination of Volatile Organic Compounds in Solvent Based Non-Heatset Inks", and ASTM Test Method D 4457-85 for determination of dichloromethane and 1,1,1-trichloroethane in paints and coatings by direct injection into a gas chromatograph.

IT IS FURTHER RESOLVED AND ORDERED that the subject amendments to Rule 67.16, 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 _____ day of _____, 1991 by the following votes:

AYES:
NOES:
ABSENT:



Air Pollution Control Board
Brian P. Bilbray District 1
George F. Bailey District 2
Susan Golding District 3
Leon L. Williams District 4
John MacDonald District 5

Air Pollution Control Officer
R. J. Sommerville

March 11, 1992


TO: Thomas Pastuszka
Clerk of the Air Pollution Control Board

FROM: Nikki S. Kaul
Administrative Services Manager

CORRECTION TO RULE 67.16 - GRAPHIC ARTS OPERATIONS

Revisions to District Rule 67.16 were adopted by the Air Pollution Control Board on May 21, 1991. The resolution as adopted contained a typographical error in the second line of Subsection (g)(4). It states "Subsection (d)(2)(i) of this rule," whereas it should read "Subsection (d)(2)(ii) of this rule."

The District has been advised by County Counsel that this error is clerical in nature and can be corrected without a public hearing.



NIKKI S. KAUL, Administrative Services Manager

Date: 3/24/92



COUNTY COUNSEL CONCURRENCE

Date: 3-20-92

NSK:ap

**RESOLUTION AMENDING RULE 67.16
OF REGULATION IV
OF THE RULES AND REGULATIONS OF THE
SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT**

On motion of Member Bailey, seconded by Member Williams 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 67.16 is to read as follows:

RULE 67.16. GRAPHIC ARTS OPERATIONS

(a) APPLICABILITY

(1) This rule is applicable to all continuous web or single sheet fed graphic arts printing, processing, laminating or drying operations.

(2) Operations subject to this rule and in compliance with Section (d) of this rule shall not be subject to Rule 66.

(b) EXEMPTIONS

The provisions of Sections (d) and (e) of this rule shall not apply to:

(1) Stationary Sources which emit less than 15 lbs (6.8 kg) of volatile organic compounds (VOC) on each day from all graphic arts operations.

(2) All proofing systems.

(3) Manufacture of:

(i) Solar control window film,

Method D 4457-85 for determination of dichloromethane and 1,1,1,-trichloroethane in paints and coatings by direct injection into a gas chromatograph.

(3) Measurements of VOC emissions subject to Section (e) of this rule shall be conducted in accordance with EPA Methods 18 and 25 or 25A (40 CFR 60, Appendix A) as applicable and with EPA Guidelines for Measurement of Capture Efficiency as they exist on *(date of adoption)*.

(4) Measurements of vapor pressures of VOC containing compounds pursuant to Subsection (d)(2)(ii) of this rule shall be calculated using the District's "Procedure for Estimating the Vapor Pressure of a Solvent Mixture", as it exists on *(date of adoption)*. If the vapor pressure of the liquid mixture is in excess of the limit specified in Subsection (d)(2)(ii), the vapor pressure shall be determined in accordance with ASTM Test Method D 2879-83, "Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope."

(5) Measurements of VOC content pursuant to Subsection (d)(1)(ii) shall be conducted and reported in accordance with ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E 260-85.

(6) Measurements of VOC content of non-heatset inks subject to Section (d) of this rule shall be conducted and reported in accordance with EPA Test Method 24 (40 CFR 60, Appendix A) or Bay Area Air Quality Management District Method 30, "Determination of Volatile Organic Compounds in Solvent Based Non-Heatset Inks", and ASTM Test Method D 4457-85 for determination of dichloromethane and 1,1,1,-trichloroethane in paints and coatings by direct injection into a gas chromatograph.

IT IS FURTHER RESOLVED AND ORDERED that the subject amendments to Rule 67.16 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 _____ day of _____, 1991 by the following votes:

AYES:
NOES:
ABSENT:

APPROVED BY THE BOARD AND LEGAL COUNSEL
COUNTY COUNSEL

BY Ann Hanson