



Dianne Jacob District 2
Pamela Slater District 3
Leon L. Williams District 4
John MacDonald District 5

Air Pollution Control Officer
R. J. Sommerville

DATE: September 20, 1994
TO: Air Pollution Control Board
SUBJECT: Adoption of Amendments to Rule 67.16 (Graphic Arts Operations)

SUMMARY:

Rule 67.16 controls volatile organic compound (VOC) emissions from graphic arts operations including printing, processing, laminating and drying. It was last amended in 1991 to correct deficiencies identified by the Environmental Protection Agency (EPA). In July 1993, EPA issued a limited disapproval of Rule 67.16 citing an additional deficiency (test method reference) it had not previously identified. The proposed changes will correct this deficiency; clarify the rule; delete outdated provisions; update definitions, test methods, exemptions and requirements for control equipment; and modify recordkeeping requirements as requested by industry.

Rule 67.16 affects approximately 40 companies involved in graphic arts operations. The revisions are administrative in nature and will not result in any emissions reductions.

The proposed changes are consistent with the Board's direction of February 2, 1993 regarding implementation of new or revised rules because the EPA notified the District that a failure to correct a Rule 67.16 deficiency before February 1995 would result in the automatic imposition of federal sanctions including a 2.0 to 1.0 emission offset ratio for new and modified pollution sources and withholding up to \$75 million in federal transportation funds.

Issue

Should the Board adopt amendments to Rule 67.16 (Graphic Arts Operations) to correct a deficiency identified by EPA and make other minor changes?

Recommendation

AIR POLLUTION CONTROL OFFICER

Adopt the resolution amending Rule 67.16 and make appropriate findings:

- (1) 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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- (2) that amended Rule 67.16 will alleviate a problem and promote attainment of ambient air quality standards (Section 40001 of the State Health and Safety Code);
- (3) that the amendments will not significantly affect air quality or emissions limitations, and that an assessment of socioeconomic impacts is not required (Section 40728.5 of the State Health and Safety Code); and
- (4) that there is no reasonable possibility that the amended rule may have a significant effect on the environment, and that adoption of amended Rule 67.16 is categorically exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Sections 15300 and 15308, as an action taken to assure the maintenance or protection of the environment and where the regulatory process involves procedures for protection of the environment.

Advisory Statement

The Air Pollution Control District Advisory Committee recommended adopting proposed amendments to Rule 67.16 at its July 27, 1994 meeting.

Fiscal Impact

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

Alternatives

Not adopt amendments to Rule 67.16. EPA notified the District that a corrected Rule 67.16 must be submitted before February 1995 or sanctions (2.0 to 1.0 emission offset ratio for new and expanding major businesses and withholding up to \$75 million in federal transportation funds) will be imposed on San Diego County. Accordingly, this alternative is not recommended.

BACKGROUND:

Rule 67.16 was adopted to control VOC emissions from graphic arts operations. Subsequently, EPA issued criteria for VOC rules and required such rules be amended by May 15, 1991 to correct deficiencies (e.g. absence of test methods and recordkeeping requirements, revision of exemption levels, and deletion of discretionary requirements). Although the deficiencies were corrected in 1991 in consultation with EPA, EPA has now determined that a test method developed by the Bay Area Air Quality Management District (BAAQMD) and specified in Rule 67.16 is not approvable. As a result, on July 12, 1993, EPA proposed a limited approval/limited disapproval of the rule and notified the District that failing to correct the rule before February 1995 will result in the automatic imposition of federal sanctions (2.0 to 1.0 emission offset ratio for new and expanding major industrial sources and withholding up to \$75 million in federal transportation funds) on San Diego County.

The proposed amendments will delete the BAAQMD test method disapproved by EPA. The amendments will also update definitions, exemptions, test methods and control equipment provisions; and update recordkeeping requirements to allow the option of keeping VOC usage records on a monthly basis if only complying materials are used.

SUBJECT: Adoption of Amendments to Rule 67.16

Section 40728.5 of the State Health and Safety Code requires the District to perform a socioeconomic impact assessment (SIA) for new and revised rules and regulations significantly affecting air quality or emission limitations. The amendments to Rule 67.16 will not affect emission limitations. Therefore, a socioeconomic impact assessment is not required.

On February 2, 1993, the Air Pollution Control 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. Amending Rule 67.16 is required by the federal Clean Air Act and is consistent with the February 2, 1993 Board direction.

California Environmental Quality Act

The California Environmental Quality Act requires an environmental review for certain actions. No significant adverse impacts on the environment have been suggested; no such impacts are reasonably possible. Adopting the proposed amendments to Rule 67.16 will not have a significant effect on the environment and is categorically exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Sections 15300 and 15308, as an action taken to assure the maintenance or protection of the environment where the regulatory process involves procedures for protection of the environment.

A public workshop on proposed Rule 67.16 was held on June 14, 1994. The workshop report is attached.

Concurrence:

DAVID E. JANSSEN
Chief Administrative Officer

Respectfully submitted,

Richard J. Somerville
for 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 ☒ 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:

BOARD POLICIES APPLICABLE:

CITIZEN COMMITTEE STATEMENT: The Air Pollution Control District Advisory Committee recommended adoption of proposed Rule 67.16 at its July 27, 1994 meeting.

CONCURRENCES: N/A

ORIGINATING DEPARTMENT: Air Pollution Control District County of San Diego

CONTACT PERSON: Richard J. Smith, Deputy Director 750-3303 MS: 0-176

Richard J. Smith for

R.J. SOMMERVILLE
DEPARTMENT AUTHORIZED REPRESENTATIVE

SEPTEMBER 20, 1994
MEETING DATE

FINDINGS OF THE SAN DIEGO COUNTY AIR POLLUTION
CONTROL BOARD IN RESPECT TO ADOPTION OF
AMENDMENTS TO RULE 67.16 (GRAPHIC ARTS OPERATIONS)

- A. Pursuant to section 40727 of the Health and Safety Code, the Air Pollution Control Board of the San Diego County Air Pollution Control District makes the following findings:
1. (Necessity) The adoption of the proposed amendments to District Rule 67.16 is necessary for the District to satisfy the requirements of subsections 182(a)(1)(A) and 182(b)(2) of the federal Clean Air Act mandating rules requiring reasonably available control technology for stationary sources of volatile organic compound emissions.
 2. (Authority) The adoption of the proposed rule amendments is authorized by Health and Safety Code sections 40001 and 40702.
 3. (Clarity) The proposed rule amendments are written so that their meaning can be easily understood by persons directly affected by the rule.
 4. (Consistency) The proposed rule amendments are in harmony with, and not in conflict with or contrary to, existing statutes, court decisions, and state and federal regulations.
 5. (Nonduplication) The proposed amendments do not impose the same requirements as an existing state or federal regulation.
 6. (Reference) The adoption of the proposed amendments implements subsections 182(a)(1)(A) and 182(b)(2) of the federal Clean Air Act [42 U.S.C. section 7511a(a)(1)(A)].
- B. The Air Pollution Control Board further finds that adoption of the proposed amendments will not significantly affect air quality or emissions limitations, and therefore an assessment of socioeconomic impacts of the proposed rule amendments was not required by Health and Safety Code section 40728.5.
- C. The Air Pollution Control Board further finds that there is no reasonable possibility that the amended rule may have a significant effect on the environment, and that the adoption of the proposed amendments is categorically exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, title 14, sections 15300 and 15308, as an action taken to assure the protection of the environment which will not have a significant effect on the environment and where the regulatory process involves procedures for protection of the environment.
- D. The Air Pollution Control Board further finds in accordance with Health and Safety Code section 40001 that the adoption of the proposed rule amendments is necessary to satisfy federal law, and that the proposed amendments will promote the attainment of state and federal ambient air quality standards.

APCD Meeting 9/20/94
Agenda Item #3

OFFICIAL RECORD

Clerk of the Board of Supervisors

Exhibit No. _____ Agenda No. APCD 2

Meeting Date 9/20/94

Presented by Staff

Document # 760963

THOMAS J. PASTUSZKA
Clerk of the Board of Supervisors

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

TUESDAY, SEPTEMBER 20, 1994

RESOLUTION NO. 94-398

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

On motion of Member MacDonald, 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 are 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 shall not be subject to Rule 66.

(b) EXEMPTIONS

(1) The provisions of Sections (d) and (e) of this rule shall not apply to stationary sources which emit less than an average of 15 lbs (6.8 kg) of volatile organic compounds (VOCs) from all graphic arts operations per day of operation for each calendar month. It is the responsibility of any person claiming an exemption pursuant to Subsection (b)(1) to maintain daily or monthly records as specified in Section (f) of this rule necessary to establish average daily emissions and to make this information available to the District upon request. The average daily emission levels shall be determined by recording and taking into account the number of operational days per given month.

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

- (i) All proofing systems.
- (ii) Manufacture of:
 - (A) Solar control window film,
 - (B) Heat applied transfer decals,
 - (C) Ceramic decals manufactured for firing above 800°F, or
 - (D) Water slide decals.
- (iii) Printing on ceramic or circuit boards.
- (iv) Embossing and foil stamping which do not use materials containing VOC.
- (v) Coating operations subject to Rule 67.5, Paper, Film and Fabric Coating Operations.
- (vi) Development process associated with the preparation of lithographic printing plates.
- (vii) Blanket repair material applied from non-refillable aerosol containers of four ounces or less.

(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 or classes of compounds: 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trifluoromethane (HFC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), chlorodifluoromethane (HCFC-22), dichlorotrifluoroethane (HCFC-123), dichlorofluoroethane (HCFC-141b), 1,1,1,2-tetrafluoroethane (HFC-134a), 1,1,2,2-tetrafluoroethane (HFC-134), chlorodifluoroethane (HCFC-142b), 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124), pentafluoroethane (HFC-125), 1,1,1-trifluoroethane (HFC-143a), 1,1-difluoroethane (HFC-152a), and the following four classes of perfluorocarbon (PFC) compounds:

- (i) cyclic, branched, or linear, completely fluorinated alkanes;
- (ii) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (iii) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
- (iv) sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(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 the same as is defined in Rule 20.1.

(19) **"Volatile Organic Compound (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

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.

(e) CONTROL EQUIPMENT

(1) In lieu of complying with the provisions of Subsection (d)(1), 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 and transports organic gaseous emissions to an air pollution control device; and

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

(2) A person subject to the requirements of this section shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance (O&M) plan for the proposed emission control device and emission collection system. 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.

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

(3) The Operation and Maintenance plan must be submitted to the Air Pollution Control Officer and receive approval prior to operation of the air pollution control equipment. A person subject to the requirements of this section shall implement the plan on approval of the Air Pollution Control Officer.

(f) RECORDKEEPING

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 and/or vapor pressure of each graphic arts material and cleaning material, as applied.

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

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

(i) For all graphic arts materials not in compliance with Subsection (d)(1) of this rule, maintain daily records of the amount of each material used; and

(ii) Maintain daily records sufficient to document continuous compliance with Subsection (e)(1)(iii), including records of key system operating parameters as approved in the Operation and Maintenance plan.

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.

(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 they exist on (*date of adoption*). Test procedures shall be performed in accordance with a protocol approved by the Air Pollution Control Officer.

(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) Perfluorocarbon (PFC) compounds and other exempt 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.

IT IS FURTHER RESOLVED AND ORDERED that the subject amendment 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 _____ 20th _____ day of _____ September _____, 1994 by the following votes:

AYES: Jacob, Slater, Williams, MacDonald
NOES: None
ABSENT: Bilbray

APPROVED AS TO FORM AND LEGALITY
COUNTY COUNSEL

BY Dutton
DEPUTY

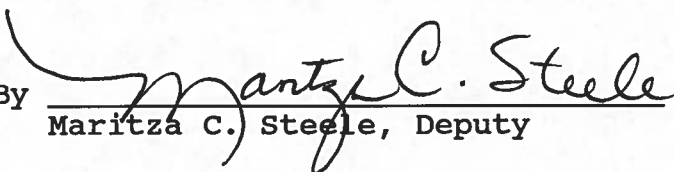
STATE OF CALIFORNIA)ss
County of San Diego)

I, THOMAS J. PASTUSZKA, Clerk of the Air Pollution Control District, 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 therein 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 the Air Pollution Control District, County of San Diego, State of California, this 20th day of September, 1994.

THOMAS J. PASTUSZKA
Clerk of the Air Pollution Control
District

By


Maritza C. Steele, Deputy

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

CHANGE COPY

PROPOSED AMENDMENTS TO RULE 67.16

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) The provisions of Sections (d) and (e) of this rule shall not apply to stationary sources which emit less than an average of 15 lbs (6.8 kg) of volatile organic compounds (VOCs) on each day from all graphic arts operations per day of operation for each calendar month. It is the responsibility of any person claiming an exemption pursuant to Subsection (b)(1) to maintain daily or monthly records as specified in Section (f) of this rule necessary to establish average daily emissions and to make this information available to the District upon request. The average daily emission levels shall be determined by recording and taking into account the number of operational days per given month.

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

~~(2)(i)~~ All proofing systems.

~~(3)(ii)~~ Manufacture of:

~~(i)(A)~~ Solar control window film,

~~(ii)(B)~~ Heat applied transfer decals,

~~(iii)(C)~~ Ceramic decals manufactured for firing above 800°F, or

~~(iv)(D)~~ Water slide decals.

~~(4)(iii)~~ Printing on ceramic or circuit boards.

~~(5)(iv)~~ Embossing and foil stamping which do not use materials containing VOC.

~~(6)(v)~~ Coating operations subject to Rule 67.5, Paper, Film and Fabric Coating Operations.

~~(7)(vi)~~ Development process associated with the preparation of lithographic printing plates.

~~(8)(vii)~~ Blanket repair material applied from non-refillable aerosol containers of 4 ~~four~~ 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) **"Exempt Compound"** means any of the following compounds or classes of compounds: 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trifluoromethane (HFC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), chlorodifluoromethane (HCFC-22), dichlorotrifluoroethane (HCFC-123), dichlorofluoroethane (HCFC-141b), 1,1,1,2-tetrafluoroethane (HFC-134a), 1,1,2,2-tetrafluoroethane (HFC-134), chlorodifluoroethane (HCFC-142b), 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124), pentafluoroethane (HFC-125), 1,1,1-trifluoroethane (HFC-143a), 1,1-difluoroethane (HFC-152a), and the following four classes of perfluorocarbon (PFC) compounds:

(i) cyclic, branched, or linear, completely fluorinated alkanes;

(ii) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

(iii) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

(iv) sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(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.~~ the same as is defined in Rule 20.1.

(19) **"Volatile Organic Compound (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 November 21, 1991, a~~ 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 May 21, 1991, 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 May 21, 1991, a Δ 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) In lieu of complying ~~Any person subject to this rule can comply with the provisions of Subsection (d)(1), a person may use an~~ by using air pollution control equipment system 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.~~

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

(ii) Includes an emission collection system which captures and transports organic gaseous emissions to an air pollution control device; and

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

(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.~~

(2) A person subject to the requirements of this section shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance (O&M) plan for the proposed emission control device and emission collection system. 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.

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

(3) The Operation and Maintenance plan must be submitted to the Air Pollution Control Officer and receive approval prior to operation of the air pollution control equipment. A person subject to the requirements of this section shall implement the plan on approval of the Air Pollution Control Officer.

(f) **RECORDKEEPING**

~~Effective May 21, 1991, any~~ 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 and/or vapor pressure of each graphic arts material and cleaning material, as applied.

(2) Maintain daily or monthly records showing the amount of each graphic arts material used 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, if applicable.~~

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

(i) For all graphic arts materials not in compliance with Subsection (d)(1) of this rule, maintain daily records of the amount of each material used; and

(ii) Maintain daily records sufficient to document continuous compliance with Subsection (e)(1)(iii), including records of key system operating parameters as approved in the Operation and Maintenance plan.

~~(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 ~~May 21, 1991~~ (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 ~~May 21, 1991~~ (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 May 21, 1991~~ (date of adoption). Test procedures shall be performed in accordance with a protocol approved by the Air Pollution Control Officer.

(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 ~~May 21, 1991~~ (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) Perfluorocarbon (PFC) compounds and other exempt 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.

~~(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.~~

**AIR POLLUTION CONTROL DISTRICT
SAN DIEGO COUNTY**

**RULE 67.16 - GRAPHIC ARTS OPERATIONS
WORKSHOP REPORT**

A workshop notice was mailed to each company known to be involved in Graphic Arts Operations in San Diego County. Notices were also mailed to all Economic Development Corporations and Chambers of Commerce in San Diego County, the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and other interested parties.

The workshop was held on June 14, 1994 and was attended by seven people. The comments and District responses are as follows:

1. WORKSHOP COMMENT:

Subsection (b)(1) provides an exemption for stationary sources which emit less than an average of 15 pounds VOC per day. Does this limit apply to each source at a facility or to all sources combined?

DISTRICT RESPONSE:

A stationary source, as defined in District Rule 20.1, is an emission unit or aggregation of units located on the same or contiguous properties. The exemption in Subsection (b)(1) of Rule 67.16 applies to the total amount of VOC emissions from all graphic arts operation units at a stationary source.

2. WORKSHOP COMMENT:

EPA comments refer to "compliant substances". How are these defined?

DISTRICT RESPONSE:

"Compliant substances" are the VOC containing materials which meet the limits specified in Section (d) of the rule.

3. WRITTEN COMMENT

Section (f) - Recordkeeping now gives the option of monthly or daily records for graphic arts materials usage. Previously, the District has allowed "grouping" of similar inks and recording a total amount of ink usage for a category of inks rather than individually. Will this option be permitted now with monthly records?

DISTRICT RESPONSE

Yes. The District will accept the same methods of grouping inks as it did with daily recordkeeping. However, a list of all the graphic arts materials and solvents must still be kept in accordance with Subsection (f)(1).

4. WRITTEN COMMENT

Rule 67.16 requires the use of EPA Test Method 24A for non-heatset inks. Method 24A is appropriate for flexographic and rotogravure inks, but EPA Method 24 should be used for heatset and non-heatset lithographic inks.

DISTRICT RESPONSE

As specified in Subsection (g)(2), EPA Method 24A should be used only for determination of the VOC content of rotogravure inks. The VOC content of all other inks subject to Section (d), including heatset and non-heatset lithographic inks, should be measured by EPA Method 24 as required by Subsection (g)(1).

5. EPA COMMENT:

Subsection (f)(2) allows for monthly records of graphic arts materials usage. Monthly recordkeeping is acceptable only when compliant substances are used. Daily recordkeeping is necessary when non-compliant substances are used.

DISTRICT RESPONSE:

The rule has been revised to clarify that facilities using add-on control equipment shall keep daily usage records of materials not complying with the requirements of Subsection (d)(1).

6. EPA COMMENT:

The addition of the words "if applicable" in Subsection (f)(3) is misleading. This should be rephrased to establish that all sources which use air pollution control equipment to comply with the standards are required to keep daily records of their operating parameters.

DISTRICT RESPONSE:

The District agrees. Subsection (f)(3) has been revised as suggested.

RS:jo
07/20/94