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**YOLO-SOLANO**  
AIR QUALITY MANAGEMENT DISTRICT

**PROPOSED AMENDMENTS TO  
RULE 2.29, GRAPHIC ARTS PRINTING OPERATIONS**

Proposed STAFF REPORT

May 29, 2018

Prepared by: David Thompson  
Reviewed by: Ben Beattie

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## I. EXECUTIVE SUMMARY

On July 11, 2018, the Yolo-Solano Air Quality Management District (District) Board of Directors will consider amendments to Rule 2.29, GRAPHIC ARTS PRINTING OPERATIONS. Rule 2.29 contains the Volatile Organic Compound (VOC) limitations for materials used at graphic arts printing operations within our jurisdiction.

The main amendment being proposed to Rule 2.29 is to lower the VOC limit for fountain solutions found in section 302.2 to levels recommended by the EPA Control Technology Guidelines (CTGs).

The proposed amendments will not have a significant or detrimental effect on the environment. Therefore, staff prepared a Notice of Exemption to satisfy the requirements of the California Environmental Quality Act (CEQA). The notice states that the revisions to Rule 2.29 are exempt from the requirements of CEQA pursuant to Section 15308, Actions by Regulatory Agencies for Protection of the Environment.

### A. BACKGROUND

#### History

Rule 2.29 was originally adopted by the District on May 25, 1994. This version of the rule was submitted for State Implementation Plan (SIP) approval in 1994 and was approved into the SIP in 1998. Minor amendments were made in 1997 (along with changes to other District rules at the same time), mainly to move the definitions of exempted compounds from many individual rules to Rule 1.1 General Provisions and Definitions.

Minor amendments were again made in 2008, to move all the solvent requirements from seven (7) different rules into one rule (Rule 2.31).

In 2006 the District completed a Reasonably Available Control Technology (RACT) SIP analysis and identified several areas where RACT was not met. This analysis was part of the requirements for the 1997 ozone standard. That review looked at CTGs which were published by the United States Environmental Protection Agency (EPA). The District adopted at least three rules in direct response to the 2006 RACT SIP, however had not adopted revisions to the graphic arts rule. On February 3, 2017 the EPA published a Finding of Failure to Submit (82 FR 9158) because our fountain solution limits weren't as stringent as those in CTG EPA-453/R-06-003 (Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing).

In 2017, the District again completed a RACT analysis (as part of the 2008 ozone standard implementation) and the only area where our rules couldn't demonstrate compliance with RACT was our Rule 2.29 wasn't as stringent as the CTG EPA-453/R-06-003. The District committed to revising our Rule 2.29.

#### Overview of source category

This rule applies to graphic arts operations regardless of the substrate, or any person who sells or distributes any material subject to the provisions of this rule. The District has about a dozen graphic arts printing operations under permit.

## II. DISCUSSION OF PROPOSED RULE 2.29 AMENDMENTS

The proposed amendments to Rule 2.29 are as follows:

### **Section 100 General**

The current rule includes a “Small User” exemption and states that any facility that emits less than 400 pounds of VOC in any month from graphic arts operations, including surface preparation and cleanup solvents. The District is proposing to make small changes to this threshold by changing the limit from a monthly to a quarterly basis and changing from actual emissions to permitted emissions.

The District’s current permit structure has limits on a daily, quarterly, and annual basis, but not monthly. Changing the exemption from a monthly to quarterly basis will streamline the enforcement and recordkeeping requirements. The current exemption says facilities “...that emit less than...” are exempt. That would imply that a facility could be subject to the rule one quarter, and the next quarter emit less than 400 pounds and be exempt. To improve enforcement, the District will change this to state those facilities that are “...permitted for less than...” will be exempt. This change will be a little more restrictive for sources, however, will make the requirements clearer to understand for sources and simpler for District staff to enforce.

The District considered lowering the exemption level to 60 pounds per month (the level of our neighboring District, the Sacramento Metropolitan Air Quality Management District). This would bring in only a few additional sources, and therefore result in minimal additional reductions. The District is making this specific revision to lower the fountain solution limits based solely on EPA comments that our fountain solution limits must match the CTG limits. The CTG has an applicability of 15 pounds per day or 1,350 pounds per quarter or 3 tons per year. Therefore, our proposed threshold of 1,200 pounds per quarter is consistent (but slightly more stringent) than the CTG. Based on the recent planning work for the 2008 ozone standard, the District did not rely on any additional reductions from the graphic arts category to show attainment. Therefore, the District decided to set the exemption threshold at 1,200 pounds per quarter.

After reviewing other District’s graphic arts rules, the District is proposing to add exemptions for Digital Printing, Aerosol Adhesives, and Stripping of cured coating, adhesives, and/or inks.

### **Section 200 Definitions**

Definitions for the following terms were added: Aerosol Adhesive, Digital Printer, Digital Printing Operations, Electrophotography, Ink Jet, Ionography, Magnetography, Resists, and Thermography.

### **Section 300 Standards**

Section 301 currently applies to Publication Gravure process and requires either a limit of 300 g of VOC’s per liter, or install and use an emissions control system with an overall capture and control efficiency of at least 85%. Section 302 and 304 apply to, among other things, gravure processes in general, in which Publication Gravure can be classified as. Sections 302 and 304 combined essentially require either using an ink and coating of less than 300 g VOC per liter, or installing and

using an emissions control system with a minimum capture and control efficiency of 95% thus making section 301 obsolete.

The current rule limits the VOC content of fountain solution to 100 grams per liter. Based on the recommendation from the CTG, the following table will replace that general limit listed in Section 302.2.

**Table 2.** Fountain Solution VOC Content Limit as expressed in Percent by Weight

| <b>Table 2</b>  |  |
|---|--|
| <b>Material Type</b>  | <b>VOC CONTENT<br/>% by Weight of As-Applied Product</b> |
| <b>Heatset Web Offset Lithography</b>   |  |
| <i>Fountain Solutions Containing Alcohol</i>  |  |
| 1. Chilled Using Refrigerated Chiller   | 3  |
| 2. Non-Chilled  | 1.6  |
| <i>Fountain Solutions Containing No Alcohol</i>   |  |
| 1. Chilled or Non-Chilled   | 5  |
| <b>Coldset Web Offset Lithography</b>   |  |
| <i>Fountain Solutions Containing No Alcohol</i>   |  |
| 1. Chilled or Non Chilled   | 5  |
| <b>Sheet-fed Offset Lithography with maximum sheet size greater than 11 X 17 inches or total solution reservoir greater than 1 gallon</b> |  |
| <i>Fountain Solutions Containing Alcohol</i>  |  |
| 1. Chilled Using Refrigerated Chiller   | 8.5  |
| 2. Non-Chilled  | 5  |
| <i>Fountain Solutions Containing No Alcohol</i>   |  |
| 1. Chilled or Non-Chilled   | 5  |
| <b>All other Presses</b>  |  |
| 1. Chilled Using Refrigerated Chiller   | 10   |
| 2. Non-Chilled  | 8  |

Section 302.3 has been added to require that when using a fountain solution that is “Chilled using Refrigerated Chiller”, the refrigerated chiller needs to be equipped with a temperature gauge and that the fountain solution shall be maintained below 60° F. This requirement comes from the CTG.

The table in Section 303 that provides VOC limits for different products associated with Screen Printing has been updated to include Resists. The District is adding this category based on the limits in the San Joaquin Valley Air Pollution Control District Rule.

Section 304 outlines emission control system alternatives to complying with Sections 302 and 303. Section 304.2 has been changed to require the overall capture and control efficiency of at least 95% as recommended in the CTG. This section had previously required an overall capture and control efficiency of 75%.

Section 307 has been added to include a “Prohibition of Sale” condition. Our existing rule already applied to persons who sold or distributed materials subject to the rule, and the administrative section had a ‘Prohibition of Specification’, which staff interpreted as prohibiting sellers from supplying non-complaint materials to facilities in our District. To make these requirements explicitly clear, the District is adding this new section 307.

#### **Section 400 Administrative Requirements**

No changes have been proposed for this section

#### **Section 500 Monitoring and Records**

Section 501.1 has been expanded to specifically list out all record keeping requirements including the following:

- a) Material name and manufacturer;
- b) Application method;
- c) Coating category and mix ratio specific to the coating; and
- d) Actual VOC content for coatings and the regulatory VOC content for coatings, as applied.

Section 503 has been updated to require retention of records for five years which aligns with similar requirements in other District rules

#### **Section 600 Test Methods and Calculations**

The testing method referenced in section 603 “VOC Content-UV Inks” has been updated to call out a specific method (test method D5403-93(2013)).

The testing method referenced in section 604 “Exempt Compounds” has been updated to the most current method, from ASTM D4457-85 to ASTM D4457-02(2008)

The testing method referenced in section 609 “Metal Content” has been updated to the most current method, from South Coast Air Quality Management District’s Spectrographic Method 311 to South Coast Air Quality Management District’s Method 318-95 Determination of Weight Percent Elemental Metal in Coating by X-Ray Diffraction.

### **III. COMPARISON WITH OTHER APPLICABLE REGULATIONS AND REQUIREMENTS**

Health and Safety Code Section 40727.2 requires districts to prepare a written comparative analysis of any new control standard that identifies all existing federal air pollution control requirements, including, but not limited to, emission control standards constituting best available control technology (BACT) that apply to the same equipment or source type as the rule or regulation

proposed for adoption or modification by the District.

The new standard being proposed is for fountain solutions, and the level being proposed is the same as the Federal CTG, which is also the limit which has been adopted by many other California Districts. The District hasn't performed a BACT analysis, however with these levels being so low (all less than 8.5% VOC by weight), it is likely that these levels represent BACT.

#### **IV. IMPACTS OF THE PROPOSED RULE**

##### Emissions Impacts

Of the graphic arts facilities currently permitted by the District, only one (QG Printing II, LLC) currently has emissions over the small user threshold. This one facility uses fountain solutions, but the fountain solution(s) they use are zero VOC. Additionally, this facility currently utilizes a collection and control method that exceeds the 95% efficiency proposed as the new standard for emissions control systems to be used in lieu of the new fountain solution standard. Therefore, the District does not expect the proposed amendments to impact emissions.

##### Cost Effectiveness

CH&SC Section 40703 requires the District, in the process of the adoption of any rule or regulation, to consider and make public its findings related to the cost effectiveness of the rule. Cost effectiveness for rulemaking purposes is calculated by dividing the cost of air pollution controls required by the rule by the amount of air pollution reduced. The amendments to this rule will not impact emissions and therefore cost effectiveness calculations cannot be performed.

##### Socioeconomic Impacts

California Health and Safety Code Section 40728.5 (a) requires the District, in the process of the adoption of any rule or regulation, to consider the socioeconomic impact if air quality or emission limits may be significantly affected. However, districts with a population of less than 500,000 persons are exempt from the provisions of Section 40728.5 (a). The District's population is estimated to be approximately 331,600 and well below the 500,000 person threshold. Therefore, a socioeconomic analysis for this rulemaking is not required.

##### Incremental Cost Effectiveness

CH&SC Section 40920.6 requires an assessment of the incremental cost-effectiveness for proposed regulations relative to ozone, Carbon Monoxide (CO), Sulfur Oxides (SOx), Nitrogen Oxides (NOx), and their precursors. Incremental cost-effectiveness is defined as the difference in control costs divided by the difference in emission reductions between two potential control options that can achieve the same emission reduction goal of a regulation. Again, the District does not expect any emissions changes from these amendments, so no incremental cost-effectiveness analysis can be done.

#### **V. ENVIRONMENTAL IMPACTS OF METHODS OF COMPLIANCE**

California Public Resource Code Section 21159 requires the District to perform an environmental analysis of the reasonably foreseeable methods of compliance. The analysis must include the following information:

1. An analysis of the reasonably foreseeable environmental impacts of the methods of compliance.
2. An analysis of the reasonably foreseeable mitigation measures.
3. An analysis of the reasonably foreseeable alternative means of compliance with the rule or regulation.

The District does not expect any change in emissions from this rule amendment. Therefore an evaluation under this section cannot be performed.

The proposed rule amendments will have neither a significant nor detrimental effect on the environment or humans due to unusual circumstances. In addition, the proposed amendment is considered to be an action taken to maintain and protect the environment. Therefore, staff has determined that the project is categorically exempt from the requirements of the California Environmental Quality Act (CEQA) pursuant to Section 15308, Actions by Regulatory Agencies for Protection of the Environment. Staff prepared a Notice of Exemption (NOE) to meet the CEQA Guidelines (Attachment B).

## **VI. REGULATORY FINDINGS**

Section 40727(a) of the California Health & Safety Code (H&SC) requires that prior to adopting or amending a rule or regulation, an air district's board make findings of necessity, authority, clarity, consistency, nonduplication, and reference. The findings must be based on the following:

1. Information presented in the District's written analysis, prepared pursuant to H&SC Section 40727.2;
2. Information contained in the rulemaking records pursuant to H&SC Section 40728; and
3. Relevant information presented at the Board's hearing for adoption of the rule.

The required findings are:

Necessity: It is necessary for the District to adopt this amended rule in order to satisfy EPA's Finding of Failure to Submit.

Authority: The District is authorized to adopt rules and regulations by California Health and Safety Code, Sections 40001, 40702, 40716, 41010 and 41013. [H&SC Section 40727 (b)(2)]

Clarity: The proposed rule is written so that the meaning can be easily understood by the persons directly affected by it. In addition, the record contains no evidence that the persons directly affected by the rule cannot understand the rule. [H&SC Section 40727(b)(3)]



Consistency: The proposed rule does not conflict with and is not contradictory to, existing statutes, court decisions, or state or federal regulations. [H&SC Section 40727(b)(4)]

Non-Duplication: The proposed rule does not duplicate any state laws or regulations, regarding the attainment and maintenance of state and federal air quality limits. [H&SC Section 40727(b)(5)]

Reference: The District must refer to any statute, court decision, or other provision of law that the District implements, interprets, or makes specific by adopting, amending or repealing the rule. [H&SC Section 40727(b)(6)]

## VII. PUBLIC COMMENTS AND STAFF RESPONSES

Staff held a public workshop on June 6, 2018, to discuss the proposed amendments to Rule 2.29. Notification was sent to surrounding Air Districts, City Managers within the District, building/planning/community development departments within the YSAQMD, all city and county libraries within the District, all Board members, and all affected sources. The workshop notice was published in the Vacaville Reporter, Woodland Democrat, and the Davis Enterprise. No comments were received from the public.

A copy of the public workshop notice, the draft staff report, and draft rule language, was posted on the District's web page prior to the public workshop.

Comments were received from EPA. They had the three following comments:

1. Sections 301.2 and 304.2 have conflicting requirements for control efficiency. Section 301.2a Publication Gravure Requirements specifies 85% overall capture and control while Section 304 Emission Control System (includes gravure printing) specifies 95% overall capture and control. Please consider removing Section 301.2 to remove any conflict with section 304.2.
2. Section 302.3 states the fountain solution shall be "...maintained at 60° F (16° C) or less at all times." The fountain solution should be maintained below 60oF to be consistent with the CTG (see pg 15 [https://www3.epa.gov/airquality/ctg\\_act/200609\\_voc\\_epa453\\_r-06-002\\_litho\\_letterpress\\_printing.pdf](https://www3.epa.gov/airquality/ctg_act/200609_voc_epa453_r-06-002_litho_letterpress_printing.pdf).)
3. Section 503, please consider requiring records be kept for 5 years instead of 2 years for consistency with Title V standards.

The District agreed with all three comments and has made the suggested changes.

## VIII. REFERENCES

- Federal Register 82, 9158 (February 3, 2017), Findings of Failure to Submit State Implementation Plan Submittals for the 2008 Ozone National Ambient Air Quality Standards (NAAQS)

**ATTACHMENT A**

**PROPOSED RULE 2.29, GRAPHIC ARTS PRINTING OPERATIONS  
STRIKE-OUT UNDERLINE VERSION**

**ATTACHMENT B**

**NOTICE OF EXEMPTION FROM CEQA GUIDELINES**

**Notice of Exemption**

**To:**  Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

County Clerk  
County of Yolo  
625 Court Street Room 105  
Woodland, CA 95695

County Clerk  
Solano County  
600 Texas Street  
Fairfield, CA 94533

**From:** Yolo-Solano Air Quality Management District  
1947 Galileo Court, Suite 103  
Davis, CA 95618

**Project Title:** Revision of Rule 2.29- GRAPHIC ARTS PRINTING OPERATIONS

**Project Location:** Yolo-Solano Air Quality Management District

**Project description:** The District is proposing to amend Rule 2.29, GRAPHIC ARTS PRINTING OPERATIONS. The District is proposing to amend the rule to ensure that the rule meets Federal Reasonably Available Control Technology (RACT).

**Name of Public Agency Approving Project:** Yolo-Solano Air Quality Management District  
**Name of Person or Agency Carrying Out Project:** Yolo-Solano Air Quality Management District

Exempt Status:

- Ministerial
- Emergency Project
- Categorical Exemption (CEQA Guidelines Section 15308, Action by Regulatory Agency for Protection of the Environment)
- Statutory Exemption

**Reason why project is exempt:** The revision of Rule 2.29 is an action taken to maintain and protect the environment and is therefore exempt from CEQA because it constitutes a Class 8 categorical exemption pursuant to CEQA Guidelines 15308.

**Lead Agency Contact Person:** Mat Ehrhardt, Air Pollution Control Officer  
**Telephone Number:** (530) 757-3650

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Title:** \_\_\_\_\_

**Notice of Exemption**

**To:**        Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

   County Clerk  
County of Yolo  
625 Court Street Room 105  
Woodland, CA 95695

   County Clerk  
Solano County  
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**Lead Agency Contact Person:**                    Mat Ehrhardt, Air Pollution Control Officer  
**Telephone Number:**                                (530) 757-3650

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Title:** \_\_\_\_\_

**ATTACHMENT C**

**RESOLUTION NO. 18-05**

RESOLUTION NO. 18-05

RESOLUTION AMENDING YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT RULE 2.29

**WHEREAS**, California Health and Safety Code section 40702 provides that an air quality management district shall adopt rules and regulations as may be necessary or proper to execute the powers and duties granted to, and imposed upon, the district by Division 26 of the Health and Safety Code; and

**WHEREAS**, Health and Safety Code section 40727 provides that before adopting, amending, or repealing a rule or regulation, a district board shall make findings of necessity, authority, clarity, consistency, nonduplication, and reference, based upon information developed pursuant to section 40727.2, information in the rulemaking record maintained pursuant to section 40728, and relevant information presented at the public hearing required by section 40725; and

**WHEREAS**, section 15308 of the CEQA Guidelines provides that actions taken by regulatory agencies as authorized by state law to assure the maintenance, restoration, or enhancement of the environment where the regulatory process involves procedures for protection of the environment, are categorically exempt from CEQA review (Class 8 Categorical Exemption); and

**WHEREAS**, District staff identified requirements within Rule 2.29, Graphic Arts Printing Operations which required updating for consistency with federal policy.

**NOW, THEREFORE, BE IT RESOLVED** that the Board of Directors of the Yolo-Solano Air Quality Management District hereby finds, authorizes, directs and declares as follows:

1. The Board of Directors has considered and hereby adopts by reference the staff report prepared in this matter.
2. The Board of Directors makes the following findings pursuant to Health and Safety Code section 40727:
  - a. Necessity: Information in the District's rulemaking record maintained pursuant to Health and Safety Code section 40728 demonstrates a need for amending District Rule 2.29;
  - b. Authority: Health and Safety Code section 40702 permits the District to amend District Rule 2.29;
  - c. Clarity: District Rule 2.29 as amended is written so that its meaning can be easily understood by the persons directly affected by it;

- d. Consistency: District Rule 2.29 as amended is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations;
  - e. Nonduplication: District Rule 2.29 as amended does not impose the same requirements as an existing state or federal regulation;
  - f. Reference: By adopting District Rule 2.29, the District meets the requirements of Health & Safety Code Sections 40702.
- 3. The Board of Directors finds that the District has complied with the procedural requirements set forth in Chapters 6 and 6.5 of Part 3 of Division 26 of the Health and Safety Code.
  - 4. The Board of Directors finds that amending District Rule 2.29 is an action taken by a regulatory agency as authorized by state law to assure the maintenance, restoration, or enhancement of the environment where the regulatory process involves procedures for protection of the environment, and is therefore categorically exempt from CEQA review as a Class 8 Categorical Exemption.
  - 5. The Board of Directors hereby amends District Rule 2.29 as set forth in Exhibit 1 (Attachment A of the Staff Report), which is attached and incorporated by reference. The amendment is effective July 11, 2018.

**PASSED AND ADOPTED** by the Board of Directors of the Yolo-Solano Air Quality Management District this 11th day of July, 2018, by the following vote:

Ayes:

Noes:

Absent:

Abstain:

\_\_\_\_\_  
Constance Boulware, Chair Board of Directors  
Yolo-Solano Air Quality Management District

Attest:

Approved as to Form:

\_\_\_\_\_  
Denise Almaguer, Clerk  
Board of Directors

\_\_\_\_\_  
Hope Welton, District Counsel



**ATTACHMENT D**

**WRITTEN COMMENTS RECEIVED**