
**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX AIR DIVISION**

Technical Support Document
for
EPA's Proposed Rulemaking
for the
California State Implementation Plan

South Coast Air Quality Management District, Rule 1130,
Graphic Arts

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RULE IDENTIFICATION

Agency: South Coast Air Quality Management District (SCAQMD)

SIP-Approved Rule: SCAQMD Rule 1130 – Graphic Arts
Adopted – October 8, 1999
Submitted – January 21, 2000
Approved – September 13, 2000 (65 FR 55201)

Subject of this TSD: SCAQMD Rule 1130 – Graphic Arts
Adopted – May 2, 2014
Submitted – November 6, 2014

BACKGROUND - The South Coast Air Basin is classified as extreme nonattainment with respect to the 1997 and 2008 8-hour ozone National Ambient Air Quality Standards (NAAQS) and moderate nonattainment with respect to the 1997 and 2006 fine particulate matter (PM_{2.5}) NAAQS. In 2012, SCAQMD updated its plan for the 1997 8-hour ozone NAAQS as part of the 2012 Air Quality Management Plan (AQMP).¹ The AQMP includes a control measure, Coatings and Solvents (CTS-02) to require solvent usage reduction or substitution from solvent cleaning operations. This measure aligns with the work practices for cleaning established in recent Rule 1130 amendments.

RULE SUMMARY – Rule 1130 limits volatile organic compound (VOC) emissions from four graphic arts processes: lithographic, flexographic, letterpress and gravure printing.² The 2014 Rule 1130 amendments were submitted to satisfy Federal Reasonably Available Control Technology (RACT) requirements, as detailed partly in the Control Techniques Guidelines (CTGs) for Offset Lithographic Printing and Letterpress Printing (EPA 453/R-06-002) and Flexible Package Printing (EPA 453/R-06-003), which EPA issued in 2006. These CTGs contain suggestions for reducing VOC emissions by using add-on controls or material reformulation and substitution.

The 2014 rule amendments change the add-on control device requirements from 75% overall capture efficiency to the CTG-recommended value of 95% destructive efficiency and 90% capture (collection) efficiency.

The 1999 SIP-approved rule included VOC limits for fountain solution of 80 g/L (100 g/L if a refrigerated chiller is used). Table of Standards II in the 2014 amendments presents separate

¹ Final 2012 Air Quality Management Plan [http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-\(february-2013\)/main-document-final-2012.pdf](http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-(february-2013)/main-document-final-2012.pdf)

² Chapter 1 of the Staff Report for Rule 1130 describes these processes.

limits for Heatset Web-Fed, Sheet-Fed and Non-Heatset Web-Fed Fountain Solution. All limits have been lowered.

Additional changes were made to remove obsolete rule language, update definitions for consistency with other District rules, add two new definitions and make minor corrections and clarifications.

RULE EVALUATION CRITERIA - We primarily used the following criteria to evaluate the submitted rule:

1. **Enforceability** - The Bluebook (*Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations*, EPA, May 25, 1988) and the Little Bluebook (*Guidance Document for Correcting Common VOC & Other Rule Deficiencies*, EPA Region 9, August 21, 2001) were used to help evaluate compliance with the CAA section 110(a)(2)(A) requirement for enforceability.
2. **Rule Stringency** - VOCs are precursors to both ozone and PM_{2.5}. As noted above, SCAQMD regulates an ozone nonattainment area that is classified as extreme under both the 1997 and 2008 ozone NAAQS and a PM_{2.5} nonattainment area classified as moderate under the 1997 and 2006 PM_{2.5} NAAQS. 40 C.F.R. § 81.305. CAA section 172(c)(1) requires nonattainment areas to implement all reasonably available control measures (RACM), including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of RACT, as expeditiously as practicable. CAA 189(a)(1)(C) also requires implementation of RACM in moderate PM_{2.5} nonattainment areas. Additional control measures for graphic arts processes may be required pursuant to CAA section 172(c)(1) if both: (1) additional measures are reasonably available; and (2) these additional reasonably available measures will advance attainment of one or more ozone standards in the area or contribute to reasonable further progress (RFP) when considered collectively (see 80 FR 12264, 12282). In addition, under CAA section 182(b)(2), ozone nonattainment areas classified as moderate or above must implement RACT for all VOC sources covered by a CTG document and all other major sources of VOCs. As noted above, SCAQMD regulates an ozone nonattainment area that is classified as extreme under both the 1997 and 2008 ozone NAAQS. 40 C.F.R. § 81.305. Lithographic, flexographic, letterpress and gravure printing are all covered by CTG documents. Therefore SCAQMD, is required to implement RACT for these processes.
3. **SIP Relaxation** - CAA section 110(l) prohibits EPA from approving any SIP revision that would interfere with any applicable requirement concerning attainment and reasonable further progress (RFP) or any other applicable requirement of the CAA. In addition, CAA section 193 prohibits the modification of any SIP-approved control requirement in effect before November 15, 1990, in a nonattainment area.

In applying these criteria to the submitted rule, we referred to the following guidance and policy

documents:

- *Issues Relating to VOC Regulation, Cutpoints, Deficiencies, and Deviations* (the "Blue Book"), US EPA, OAQPS (May 25, 1988).
- *Guidance Document for Correcting Common VOC and Other Rule Deficiencies*, EPA Region IX (August 21, 2001, the "Little Bluebook").
- *State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990*, 57 FR 13498 (April 16, 1992); 57 FR 18070 (April 28, 1992).
- *Final Rule To Implement the 8-Hour Ozone NAAQS – Phase 2*, 70 FR 71612 (Nov. 25, 2005).
- *Final Rule, Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements*, 80 FR 12264 (March 6, 2015).
- *CTG for Flexible Package Printing* (EPA 453/R-06-003, September 2006).
- *CTG for Offset Lithographic Printing and Letterpress Printing* (EPA 453/R-06-02, September 2006).
- *Control of Volatile Organic Emissions from Stationary Sources Volume VIII: Graphic Arts-Rotogravure and Flexography* (EPA 450/2-78-033, December 1978).
- *Alternative Control Techniques Document, Offset Lithographic Printing* (EPA-453/R-94-054 June 1994).

EPA EVALUATION

A summary of our evaluation of the three criteria is as follows:

Enforceability – SCAQMD’s recordkeeping and reporting requirements for graphic arts processes are in SCAQMD Rule 109, Recordkeeping for Volatile Organic Compound Emission, which EPA approved into the California SIP on January 22, 2004 (69 FR 3018). Rule 1130 section (i)(5)(B) further requires that facilities operating under an exemption from VOC content limits for matte and metallic inks with actual emissions in excess of ten (10) tons per calendar year retain all purchase orders and invoices of VOC-containing materials for five years. The recordkeeping requirements for coatings and control system parameters, test methods and other requirements generally ensure that the submitted rule can be enforced. Therefore, we propose to determine that submitted Rule 1130, in conjunction with Rule 109, is sufficiently clear and enforceable.

Stringency –Rule 1130 VOC content limits and other requirements are now consistent with the three CTGs and the ACT listed above. Graphic arts materials with a VOC content less than 10 g/L are now exempt from this rule (see section (i)(1)(J)) to encourage the use of very low VOC material. This low-VOC exemption level is well below the VOC content limits for graphic arts materials in Rule 1130, which range from 150 – 300 g/L. Accordingly, the exemption will not result in any emission increases. However, coatings with a VOC less than 10 g/L, would no longer be subject to Rule 109 recordkeeping requirements.

CTG recommendations for establishing work practices for cleaning and storage provisions to reduce air emissions are largely and adequately addressed in Rule 1171, Solvent Cleaning

Operations, which is cross referenced in Rule 1130 section (c)(3), and which was approved into the SIP on September 29, 2011(76 FR 60376). CTG recommendations for recordkeeping and test methods are largely and adequately addressed in Rule 109.

Accordingly, we propose to find that Rule 1130, in conjunction with Rules 109 and 1171, fulfills RACT requirements for lithographic, flexographic, letterpress and gravure printing processes.

EPA has already approved SCAQMD's RACM demonstration for the 1997 ozone NAAQS (see 77 FR 12674) and will act separately on the State's RACM demonstration for the 2008 ozone NAAQS based on an evaluation of the control measures submitted as a whole and their overall potential to advance the applicable attainment dates for ozone.

SIP Revisions – Rule 1130 was strengthened by reducing VOC content limits for fountain solution to between 16-85 g/L. VOC limits for graphic arts materials including adhesives, coating, flexographic florescent ink, flexographic ink, gravure ink, letterpress ink and offset lithographic ink remained the same, however minimum control system efficiency levels have been increased. The amendments also improve the SIP-approved version of the rule by revising the structure of the rule to be more aligned with applicable CTGs. Other VOC limits were also strengthened and additional workplace practices are now required for storage and cleaning.

We therefore propose to determine that our approval of the submittal would comply with CAA sections 110(l) and 193 because the submitted SIP rule: (1) will ensure equivalent or greater emission reductions of VOCs, and (2) will not interfere with the on-going process for ensuring that requirements for RFP and attainment of the NAAQS are met.

RULE DEFICIENCIES – We have identified no deficiencies in submitted Rule 1130 sufficient for EPA to propose less than full approval.

ADDITIONAL RECOMMENDATIONS FOR THE NEXT RULE REVISION - The following recommendations are not currently the basis for rule disapproval, but we encourage SCAQMD to consider them the next time the rule is amended:

1. (b)(8) Definition for Energy Curable Coatings, Inks and Adhesives. Please change reference from ASTM Test Method 7767-11 to ASTM Test Method D7767-11.
2. (h)(4)(B) Test Methods - Please add titles to all referenced test methods.
3. The "*Little Blue Book*" recommends the inclusion of dates for ASTM test methods but not for Air District test methods. We are not evaluating Rule 109, however we suggest deleting the 7/1/85 date reference attached to Method 24 to avoid a potential conflict.
4. (h)(4)(A) Test Methods - We recommend revising to read, "...any other method approved in writing by the U.S. EPA..."
5. We recommend updating Rule 109, Recordkeeping for Volatile Organic Compound Emissions, to specify that violations of the (weekly/monthly) requirements are presumed to be violations for each day. (The Little Bluebook revised August 21, 2001)

EPA ACTION - The submitted Rule 1130 adequately addresses the relevant CAA criteria for the reasons discussed above. As a result, EPA staff recommends a full approval of pursuant to CAA section 110(k)(3).

ADDITIONAL REFERENCES

- South Coast Air Quality Management District Rule 1130 Graphic Arts, approved September 13, 2000; 65 FR 55201.
- South Coast Air Quality Management District Rule 109 Recordkeeping for Volatile Organic Compound Emissions, approved January 22, 2004; 69 FR 3018.
- South Coast Air Quality Management District Rule 1171 Solvent Cleaning Operations, approved September 29, 2011; 76 FR 60376.