Changes to Offset Lithographic Printing Rules

On April 1, 2010, amendments to the existing 30 Texas Administrative Code (TAC) Sections 115.440-115.449: Offset Lithographic Printing became effective. The changes adopted by the Texas Commission on Environmental Quality (TCEQ) reduced the volatile organic compound (VOC) content of the fountain and cleaning solution used for printing operations in the Dallas–Fort Worth (DFW) and Houston-Galveston-Brazoria (HGB) areas.

This fact sheet highlights the revisions adopted in 30 TAC 115 rules for Offset Lithographic Printing. The control requirements, monitoring and record-keeping rules that are already in effect for El Paso County, DFW, and HGB areas can be reviewed in 30 TAC 115.442(a) and 30 TAC 115.446(a). El Paso County was not affected by the changes effective on April 1, 2010.

Do these rule changes apply to my facility?

Applicability, 30 TAC 115.440

The rule changes apply to offset lithographic printing lines located in the DFW and HGB areas. Unless specifically exempted, offset lithographic printing operations must reduce the VOC content in fountain and cleaning solutions and comply with monitoring, testing, and record-keeping requirements.

Applicability Table

	Counties	Minor Source	Major Source
DFW	Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, and Tarrant	Printing operations that emit **less than 50** tons of actual, uncontrolled VOCs per calendar year.	Printing operations that emit **equal to or more than 50** tons of actual, uncontrolled VOCs per calendar year.
HGB	Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller	Printing operations that emit **less than 25** tons of actual, uncontrolled VOCs per calendar year.	Printing operations that emit **equal to or more than 25** tons of actual, uncontrolled VOCs per calendar year.
Compliance Dates		March 1, 2012	March 1, 2011

*Note: Printing operations that become subject to the rules after the dates specified above will have 60 days after the start of operation to comply.

Exemptions, 30 TAC 115.441

Printing operations located in the DFW and HGB areas with uncontrolled VOC emissions of **less than 3.0** tons per calendar year are exempt from the requirements of this rule, except for the monitoring and record-keeping requirements found in 30 TAC 115.446. If claiming this exemption, records must be kept to demonstrate exempt status. These documents may include records of ink, solvent, and fountain-solution usage.

Minor sources may also exempt:

- up to 110 gallons of cleaning solution per calendar year from the VOC content limits specified below;
- any sheet-fed press with a maximum sheet size of 11.0 inches by 17.0 inches or smaller from the fountain solution VOC limits; and
- any press with a total fountain solution reservoir of **less than 1.0** gallon from the VOC limits for the fountain solution.

What are the new VOC limitations?

Control Requirements, 30 TAC 115.442(b)-(c)

Major printing operations in the HGB and DFW area will have until **March 1, 2011,** to comply with this section and *minor* printing sources in the HGB and DFW areas will have until **March 1, 2012,** to comply with this section. After those deadlines, 30 TAC 115.442(a) will no longer apply to those printing operations.

VOC content in the cleaning solution is limited by one of the following:

- 50.0 percent (%) VOC or less by volume;
- 70.0% VOC or less by volume in conjunction with a program for handling used towels that ensures all waste ink, solvents, and cleanup rags are stored in closed containers; or
- a VOC-composite partial vapor pressure **less than or equal to** 10.0 millimeters of mercury at 68 degrees Fahrenheit in conjunction with a towel handling program that ensures all waste ink, solvents, and cleanup rags are stored in closed containers.

Sheet-fed offset printing press operations must limit VOC content of the fountain solution as follows:

- 5.0% alcohol or less by weight;
- 8.5% or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit; or
- alcohol substitute
  - 3.0% or less of alcohol substitute with no alcohol in fountain solution for *major* sources; and
  - 5.0% or less of alcohol substitute with no alcohol in fountain solution for *minor* sources.

Non-heatset (also known as *coldset*) web offset printing operations must limit VOC content of the fountain solution as follows:

- 3.0% or less of alcohol substitutes with no alcohol in the solution for *major* sources; and
- 5.0% or less of alcohol substitutes with no alcohol in the solution for *minor* sources.

Heatset web offset printing operations must limit the VOC content of the fountain solution by one of the following:

- 1.6% alcohol or less by weight;
- 3.0% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit; or
- Alcohol substitute
  - 3.0% alcohol substitute or less by weight with no alcohol in the fountain solution for *major* sources; and
  - 5.0% alcohol substitute or less by weight with no alcohol in the fountain solution for *minor* sources.

Heatset offset printing operations at *major* printing sources must operate a control device to reduce VOC emissions from the press' dryer exhaust vent by at least 90% by weight or maintain the VOC concentration at the dryer exhaust to 20 parts per million by volume (ppmv) or less, whichever is less stringent when the press is in operation. The dry air pressure must be lower than the pressroom air pressure to ensure the dryer has a capture efficiency of 100%.

Any alternate control requirements must be approved by the TCEQ.

How do I demonstrate compliance?

Approved Test Methods, 30 TAC 115.445

Printing operations must use approved test methods or follow guidelines developed by the Environmental Protection Agency to demonstrate compliance with these rules. These approved methods can be found in 40 Code of Federal Regulations (CFR) Part 60, Appendix A. Alternate testing methods must be approved by the TCEQ.

Records from these approved test methods must be maintained at the facility for a minimum of two years.

Monitoring and Record-keeping Requirements, 30 TAC 115.446 (b)-(c)

Owners and operators of *major* printing operations will have until March 1, 2011, to comply with this section and *minor* printing operations will have until March 1, 2012, to comply. At that time, 30 TAC 115.446(a) will no longer apply to those printing operations in the DFW and HGB areas.

Records must be kept for at least two years and must be made available upon request by the TCEQ, the EPA, or any local air pollution agency with jurisdiction. Records must be kept to demonstrate continuous compliance with the rules.

Record-keeping Requirements for Cleaning Solution Limits:

Printers must use one of the following options to demonstrate compliance with the applicable VOC content limits for cleaning solution:

- Flow meters can be used to monitor solution flow rate on a printing press with automatic cleaning equipment. Flow meters must be calibrated to ensure the cleaning solution has the proper VOC concentration.
- The Material Safety and Data Sheet (MSDS) may be used to demonstrate VOC concentration for cleaning solution. If the MSDS does not contain the VOC content or all necessary data to calculate the VOC content, you may contact the supplier to obtain the missing information. You must record the VOC concentration used in each cleaning solution batch. In addition, if diluting the VOC content prior to use, you must record the proportions utilized and calculate the percent of VOC by volume based on the recorded proportions.

Record-keeping Requirements for Fountain Solution Limits:

Printers must use one of the following options to demonstrate compliance with the applicable VOC content limits for fountain solution:

- A refractometer or hydrometer (corrected for temperature) can be used to measure the VOC concentration for each batch of fountain solution. Both instruments must have a visual, analog, or digital readout with an accuracy of 0.5% VOC. If the particular type of VOC cannot be measured with a refractometer or hydrometer then a conductivity meter (referenced to the incoming water) can be used.
- The MSDS can also be utilized to determine the VOC concentration for fountain solution. If the MSDS does not contain the VOC content or all necessary data to calculate the VOC content, you may contact the supplier to obtain the missing information. You must record the concentration of all alcohols or alcohol substitutes (VOCs) used to prepare the batch. If diluted prior to use, you must record the proportions utilized and calculate the percent of VOC by weight based on the recorded proportions.

Printing operations using refrigeration equipment on the fountain solution reservoir must monitor and record fountain solution temperature once per hour. Records must be sufficient to demonstrate continuous compliance with the fountain solution limits.

If using the MSDS option to determine the VOC content of fountain and cleaning solution, here are some important reminders:

- The MSDS should be maintained with compliance documentation for all products used.
- The VOC content obtained from the MSDS and supplier must have been derived using one of the approved test methods in 30 TAC 115.445.

Record-keeping Requirements for Heatset Web Offset Printing Operations:

Operating parameters for emission control devices must be continuously measured and recorded. Measurements taken every 15 minutes are sufficient to satisfy this requirement. Records for specific control devices must show the following:

- exhaust gas temperatures from incinerators and/or gas temperature immediately upstream and downstream of any catalyst bed;
- the total amount of VOC recovered by a carbon adsorption system or other solvent recovery system per calendar month; and
- the VOC concentration of exhaust gas at the carbon adsorption system to determine if a breakthrough has occurred.

A measuring device for air flow direction must be used to demonstrate the dryer meets 100% capture efficiency.

What resources are available if I need help?

The following TCEQ programs are available to assist with any questions you may have concerning the rule and compliance requirements:

The Small Business Environmental Assistance Division's toll-free confidential hotline number is 1-800-447-2827 and additional resources are available at www.texasenvirohelp.org.

The Air Quality Division can be reached at 512-239-3931.

This document is not a replacement for Chapter 115 rules. Other compliance requirements may apply. Under Texas law, all new or modified air pollutant emitting facilities statewide have to obtain authorization. Separately and additionally, Chapter 115 requires VOC reductions in specific areas in order to meet federal ambient ozone standards. Separate permitting and/or federal requirements may apply. Download rules from TCEQ's website: *http://www.tceq.state.tx.us/rules/index.html*.